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ABSTRACT

Based on data obtained from a random sample of United States schools in 1970, this monograph reports achievements in reading speed, comprehension, and word knowledge and in literary understanding, interpretation, and interest of American students aged 9, 14, and 17. The monograph also contains demographic information on teachers, permitting a profile of the secondary school English teacher. Various sections of the monograph discuss the following: (1) the International Association for the Evaluation of Educational Achievement (IEA) studies in reading and literature conducted in 14 countries, which form the basis of this analysis; (2) what United States teachers of reading and literature reported about themselves; (3) student achievement in reading and literature; and (4) student response to literature. Extensive appendixes contain copies of the IEA reading comprehension and literature tests, along with student and teacher questionnaires, the Rasch Analysis of Reading, discriminant analysis tables for student responses to literature, and discriminant analysis with rigid axes rotation for literature teacher curricular patterns. (FL)

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NCTE Research Report No.20

Reading and Literature

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American Achievement in International Perspective

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Contents

List of Tables vii

List of Figures xi

Foreword xiii

Preface xv

1. The IEA Studies in Reading and Literature 3
2. What Teachers of Reading and Literature Reported about Themselves 19
3. Achievement in Reading and Literature 47
4. Response to Literature 79
5. Conclusion 105

References 109

Appendix A: IEA Reading Comprehension and Literature Tests with Student and Teacher Questionnaires 113

Appendix B: The Rasch Analysis of Reading 189

Appendix C: Discriminant Analysis Tables—Response to Literature 209

Appendix D: Discriminant Analysis with Rigid Axes Rotation—Literature Teacher Curricular Patterns 243

0 (4

List of Tables

1. Countries Participating in IEA Study 4
2. Cross-National Curricular Emphases in Literature, Populations II and IV 5
3. The Reading and Literature Tests 6
4. General Sample Structure 9
5. Selected Characteristics of Teachers 20
6. Professionalism of Teachers 21
7. Time Spent on Preparation and Marking 22
8. The Important Determinants of Curriculum 23
9. Mode of Assessment Used Frequently 23
10. Proportion of Teachers Using Selected Techniques Frequently 25
11. Relative Direction of Frequency Teachers' Practices in Low-Achieving Schools 26
12. Selected Correlations with Experience of Teachers 27
13. Rank Order of Goals of Instruction 29
14. Intercorrelations of the Goals of Instruction 31
15. Correlations of Goals in Literature to Other Teacher Variables 32
16. The Relationship between Preferences for Certain Questions and Curriculum Goals in Literature 36
17. Loadings of Seventeen Response Preferences from Teacher Questionnaire—English Section on Factors 1 and 2 (After Varimax Rotation) 39
18. Twenty Curricular (Procedural or Formal) Variables from the Teacher Questionnaire—General Section 41
19. Description of Eight Groups Used in Discriminant Analysis of IEA Curricular Variables 42
20. Summary of Discriminant Analysis with Twelve Curricular Variables and Eight Groups 43

21. Regression Analysis Reading, Population I—Between Student 50
22. Regression Analysis Reading, Population II—Between Student 52
23. Regression Analysis Reading, Population IV—Between Student 54
24. Sex and Family Size of Low and High Scoring Readers 56
25. Reading Habits of Low-Achieving and High-Achieving Students 56
26. Television Watching of Low-Achieving and High-Achieving Students 57
27. Selected Family Characteristics of Low-Achieving and High-Achieving Students 57
28. Father's Occupation 58
29. Expected Occupation 58
30. Questions on the Reading Tests That Did Not Fit the Rasch Model 60
31. Mean and Standard Deviation of Item Difficulties Based on Item Classification 64
32. Multiple Regression—Literature Achievement, Population II 66
33. Multiple Regression—Literature Achievement, Population IV 70
34. Multiple Regression—Literature Interest, Population IV 72
35. Students' Liking of the Selections 73
36. Correlations of Degree of Liking and Other Variables, Population II 74
37. Performance of Low-Scoring Students in Literature, Population II 74
38. Persistence of Responses: Population IV, "The Use of Force" 85
39. Persistence of Responses: Population IV, "I See You Never" 86
40. Persistence of Responses: Population IV, "The Man by the Fountain" 87
41. Persistence of Responses: Population IV, "The Sea" 88
42. Associated Responses: Population IV, "The Use of Force" 89
43. Associated Responses: Population IV, "I See You Never" 90
44. Associated Responses: Population IV, "The Man by the Fountain" 91
45. Associated Responses: Population IV, "The Sea" 91
46. Associated Responses: Population IV, Questionnaire 92

47. Correlation of Interpretive Pattern Scores with Selected Variables, Population IV 93
48. Discriminant Functions for Sex, Population II 94
49. Reading Test Description by Population and Form 192
50. Slope Index of Fit and Frequency Distributions for Reading Tests 193
51. Summary Report Information Function for Each Section C Reading Item at Different Person Ability Levels, Population II 194
52. Summary Report Information Function for Each Section D Reading Item at Different Person Ability Levels, Population II 196
53. Summary Report Information Function for Each Section C Reading Item at Different Person Ability Levels, Population IV 198
54. Summary Report Information Function for Each Section D Reading Item at Different Person Ability Levels, Population IV 200
55. Anchor Items from Reading Test Population II and Population IV 202
56. Reading Anchor Item Difficulty for Two Populations 203
57. Means and Standard Deviations on Information Function for Reading Test Aggregated over Items within Passages on Population II 204
58. Means and Standard Deviations on Information Function for Reading Test Aggregated over Items within Passages on Population IV 206
59. Standard Discriminant Function Weights, Population II—Rotated Story 210
60. Standard Discriminant Function Weights, Population II—Sex 212
61. Standard Discriminant Function Weights, Population IV—Sex 214
62. Standard Discriminant Function Weights, Population II—Socio-Economic Status 216
63. Standard Discriminant Function Weights, Population IV—Socio-Economic Status 218
64. Standard Discriminant Function Weights, Population II—Score on "The Sea" 220
65. Standard Discriminant Function Weights, Population IV—Score on "The Sea" 222

66. Standard Discriminant Function Weights, Population II—Score on Rotated Story 224
67. Standard Discriminant Function Weights, Population IV—Score on Rotated Story 226
68. Standard Discriminant Function Weights, Population II—Transfer 228
69. Standard Discriminant Function Weights, Population IV—Transfer 230
70. Standard Discriminant Function Weights, Population II—Interest 232
71. Standard Discriminant Function Weights, Population IV—Interest 234
72. Standard Discriminant Function Weights, Population II—Like Rotated Story 236
73. Standard Discriminant Function Weights, Population IV—Like Rotated Story 236
74. Standard Discriminant Function Weights, Population II—Like "The Sea" 238
75. Standard Discriminant Function Weights, Population IV—Like "The Sea" 240
76. Loadings of Seventeen Response Preferences from Teacher Questionnaire—English Section on Factors 1 and 2 (After Varimax Rotation) 244
77. Description of Eight Groups Used in Discriminant Analysis of IEA Curricular Variables 244
78. Summary of Discriminant Analysis with Twelve Curricular Variables and Eight Groups 245
79. Standardized Discriminant Function Coefficients after Rigid Axes Rotation of 45 Degrees 247

List of Figures

1. *Cross-National Score Profiles: Reading* 10
2. *Cross-National Score Profiles: Literature* 11
3. *Degrees of Excellence in Population IV—Literature* 12
4. *Position of Countries Relative to Continua of Personal-Impersonal and Form-Content Responses* 16
5. *Projection of Eight Groups of Teachers with Respect to Two Discriminant Functions* 44
6. *Mean on Information Function for Passages 1-4 on Section C, Reading Test, Population II* 61
7. *Mean on Information Function for Passages 5-8 on Section C, Reading Test, Population II* 62
8. *Variety of Responses Selected—Population IV: "The Use of Force"* 75
9. *Variety of Responses Selected—Population IV: "I See You Never"* 76
10. *Variety of Responses Selected—Population IV: "The Man by the Fountain"* 77
11. *Pattern of Response—Population II* 80
12. *Pattern of Response—Population IV* 82
13. *Comparison of Persistence of Response to "Does anything in the story have a hidden meaning?" in "The Sea" and "The Man by the Fountain"* 84
14. *Discrimination of Response Pattern by Sex—Population II* 96
15. *Discrimination of Response Pattern by Sex—Population IV* 97
16. *Responses according to Socio-Economic Status* 98
17. *Responses according to Achievement* 99
18. *Responses according to Transfer Score* 100
19. *Responses according to Liking "The Sea"—Population II* 102
20. *Responses according to Liking "The Sea"—Population IV* 102

21. *Scattergram of Item Difficulties for Anchor Items on Reading Test* 192

22. *Projection of Eight Group Centroids onto Discriminant Space: D1, D2* 246

Foreword

The Committee on Research of the National Council of Teachers of English is most pleased to continue its Research Report series with this monograph by Alan Purves, a distinguished researcher of international reputation. Though the committee always takes special pleasure in introducing a new researcher, it takes equal pleasure in publishing the work of an established researcher, particularly one who has appeared before in the Research Report series. So far only Walter Loban and Alan Purves hold that distinction. Both have set high standards of research. Both are models of years-long dedication to research on the basic questions in English education.

I believe that few would argue the claim that Purves is presently the most notable American researcher in the teaching of literature and in reader response to literature, notable both for the quality of his work and for its range and variety. He was the principal designer of the literature assessment in the cross-national International Educational Achievement studies, from which came the research in this monograph. He has done additional ground-breaking work in the evaluations of readers' response to literature, notably the construction of a good part of the first American assessment of achievement in literature for the National Assessment of Educational Progress. He has edited materials for school literary study and published articles and books on the teaching of literature in schools and colleges, and he has undertaken and published in book-length form the most exhaustive review yet attempted of the research on reading interests, response to literature, and the teaching of literature. And all of this influential work has been grounded in Purves's comprehensive knowledge of literary theory and reader psychology. His first publication in the Research Report series, a work quite different from the present one, provided researchers and theorists with a systematic way of describing the responses readers make to works of fiction. In the thirteen years since its publication, it has spawned dozens of studies, including my own dissertation study and those of two of my students. I remember distinctly my excitement on reading it. It solved an immediate problem in my own novice research, and even then it seemed to me a major contribution to our field.

This present study, Research Report no. 20, *Reading and Literature: American Achievement in International Perspective*, is also a major contribution. It reports achievements in reading speed, comprehension, and

11

word knowledge and in literary understanding, interpretation, and interest of American students ages nine, fourteen, and seventeen. There is also important demographic information on teachers, permitting a profile of the secondary English teacher. All of the data were collected from a random sample of American schools in 1970.

In the tradition of the Research Report series, this monograph contributes substantive new findings as well as valuable measurement and methodological suggestions. I'll restrain my impulse to comment on the major findings reported in the study and leave it to the reader to encounter those in Purves's cautious, concise presentation. But I do want to note briefly the measurement and methodological contributions in the report so that those will not be overlooked by the research community. Perhaps of greatest importance is the fact that all of the student tests and questionnaires from the international studies of reading and literature are included here in appendices. These instruments will be useful in many different kinds of studies. In addition, the report reveals a very sophisticated approach to data analysis, an approach initially designed by the best international consultants available in the late 1960s and added to by consultants in secondary analysis. Besides the usual correlational statistics, Purves and his team make use of regression analysis, Rasch Model analysis, multiple discriminant analysis, and factor analysis. The data analysis is a model of what might be done with survey data of this type. Brief appendices explain the use of the Rasch Model and of multiple discriminant analysis.

As to the substantive findings reported here, I am confident readers will find them intriguing. Nevertheless, since this is only a one-time assessment of achievement and since it relies mainly on correlational analyses of various kinds—as such achievement and attitude surveys always must—the findings are not definitive. Nothing is "proved" in this report: there is no prescription here for improving the teaching of literature in American schools. There is, however, a wealth of intriguing relationships—between teachers' preferences and students' preferences, student background and achievement, opportunity to learn and achievement, teacher knowledge and professionalism and student achievement, curriculum design and achievement, classroom activities and achievement, and many more. Though Purves cautiously presents several compelling conclusions from these relationships, he emphasizes the need for a "number of experimental studies" of the main questions raised in his report. Indeed, this skillful, compelling survey of teaching practices and student achievement in reading and literature may foster an array of new studies taking it as their starting point. That, too, would be very much in the tradition of the Research Report series.

Charles R. Cooper
Committee on Research
National Council of Teachers of English

Preface

The International Association for the Evaluation of Educational Achievement (IEA) began its studies in reading and literature fifteen years ago; the testing was done a decade ago, and the results published in 1973. One may ask why they should be reexamined now. A number of answers come to mind. The first is that they provide one of the most extensive data bases ever compiled, and although the data reflect a particular point of history, nonetheless they may hold the answers to many basic questions. Secondly, when the studies were published they tended to support the then popular cry that schools don't make a difference. It is my contention that the tendency was an unwarranted inference. Third, the studies tended to overplay the regression analyses, and much was lost. Finally, I must confess to simple curiosity. What is reported here is far from all that might be explored, but I believe that it is time to pull together both some of my reanalyses and some of my reinterpretations.

The genesis of this volume coincided with the completion of the volume reporting the results of the IEA study of achievement in literature (Purves, 1973). At that point I realized that much of the data lay unmined and that many intriguing questions remained. With some graduate students in 1973 and 1974 I began to look at certain aspects of the data, and at the same time realized that I would need the data tapes. These were not available until 1976 and the first copy I received was defective; a decent copy did not arrive until 1978. At that time, three graduate students, Warren Dastrup, Del Harnisch, and Donald Quirk, helped in setting up the files and performing many of the analyses that are reported here. I am particularly grateful to Donald Quirk for his indefatigably working on ways to connect teacher response to student response (to no avail) and for his help in many aspects of the study. I am including Del Harnisch's description of part of the Rasch Analysis of reading in Appendix B and Donald Quirk on Multiple Discriminant Analysis in Appendix D because I think them of use to many in both English and statistical analyses. Barbara Bauer worked on the teacher analysis, patiently mining the correlates of their goal preferences.

The IEA data, which are the subject of this monograph, consist of a set of computer tapes on which is recorded information derived from tests, attitude scales, and questionnaires administered to children, teachers,

and school administrators. The information is recorded so that a researcher can examine individuals as well as groups. The tapes are currently available at a number of centers (Teachers College, Columbia; the Universities of Chicago, Illinois, Kentucky, and California at Los Angeles, to name a few). On the tapes are code books which explain most of the data. The actual tests and questionnaires are either printed in part in the original volumes or are availble from IEA headquarters in Stockholm, or through ERIC (ED 102 169—ED 102 194). The reading comprehension and literature tests and student and teacher questionnaires are reprinted in this volume in Appendix A.

I wish to thank the Research Board of the University of Illinois for its support in the purchase of the tapes and computer costs and the College of Education of the University of Illinois for additional support. Many discussed aspects of the study with me and gave me new perspectives: Ian Westbury, Arthur Applebee, Jana Mason, James Wardrop, and particularly my wife, Anne, who was always encouraging and critical. Finally, Patricia Bandy deserves many thanks for typing the manuscript and putting up with my stylistic and orthographical idiosyncrasies.

Urbana, Illinois
July 1979

Reading and Literature

1 The IEA Studies in Reading and Literature

The International Association for the Evaluation of Educational Achievement (IEA), a voluntary association of educational researchers from a large number of countries, has conducted a study of achievement in six subjects: reading, literature, science, civic education, English as a foreign language, and French as a foreign language. The work on developing tests, questionnaires, and analysis began in 1965, and the testing in reading, science, and literature was done in 1970. Each subject study was designed by a committee; Robert Thorndike chaired the reading committee; A. W. Foshay and Alan Purves chaired the literature committee. Fifteen countries participated in the reading study and ten in the literature study. The testing was done at two levels: age fourteen (Population II), and the preuniversity year in secondary school (Population IV); most countries also tested ten year olds (Population I) in reading. Countries participating are shown in Table 1.

Unlike other countries, the United States did not test the same students in both reading and literature on the one hand and science on the other. As a result one cannot make comparisons of achievement in these subjects. In the reading study the students were given a test of comprehension using short passages and multiple-choice questions, a test of reading speed, a brief test of word knowledge, and a questionnaire about background, interests, and opinions (see Appendix A). The comprehension tests differed for the three age groups, although there were some common passages.

In literature both age groups were given a multiple-choice comprehension test on two short stories (one common to all students and one of three stories rotated among random thirds of the student group), and a response preference questionnaire designed to elicit their preferred mode of writing or talking about each story. The literature test also included a questionnaire dealing with the students' interest in reading and literature, a general response preference questionnaire, a questionnaire seeking their involvement in what they read, and one dealing with reading preferences and other interests. The students were also given a questionnaire dealing with their attitudes towards school, their sense of the climate of the school, and their perception of certain class and teacher practices (see Appendix A). The rationale behind this battery of tests and questionnaires is evident in the breakdown of the literature curriculum illustrated in Table 2.

Although there was an emphasis in each country's curriculum on the students' knowing certain works and authors, the diversity of cultures was such that no common test could be constructed. A similar problem existed with the knowledge of critical terms and systems. The measures, therefore, concentrated on various aspects of the students' response to literature—both cognitive and affective—and on their attitudes and interests.

In addition to information about students, the study secured information from teachers and schools. In each school in the study, all teachers of the mother tongue responded to a questionnaire, as did the principal of the school. The IEA Council decided that the individual teachers were not to be specifically linked to the students, but were to be grouped by school, so that no link between pupil and teacher could be made. The teacher questionnaire is reproduced in Appendix A. The total number of instruments is found in Table 3. Each student spent close to three hours on strictly timed tests, and

Table 1

Countries Participating in IEA Study

	Reading	Literature
Flemish-speaking Belgium	X	X
French-speaking Belgium	X	X
Chile	X	X
England	X	X
Finland	X	X
Hungary	X	
India	X	
Iran	X	X
Israel	X	
Italy	X	X
Netherlands	X	
New Zealand[1]	X	X
Scotland	X	
Sweden	X	X
United States	X	X

1. Did not test ten year olds in reading.

another hour on questionnaires and attitude scales. In general, not all testing was done on the same day. For a further discussion of test development and test characteristics, the reader is referred to the IEA general volumes on reading and literature (Thorndike, 1973; Purves, 1973).

Table 2

Cross-National Curricular Emphases in Literature, Populations II and IV

Behavior	Content			
	Specific literary texts	Contextual information	Literary terminology and theory	Mythological information
Recognize and recall	3/3[1]	0/2	1/2	2/2
Apply knowledge of specific literary texts to	0/1	0/2	0/1	1/2
Apply contextual information to	0/2	0/1	0/1	0/1
Apply literary terminology and theory to	1/2	0/1	0/0	0/1
Apply mythological information to	1/2	0/1	0/1	0/1
Respond to	3/3	0/2	0/1	1/2
Express a pattern of preference for	1/2	0/1	0/1	0/0
Express a response to	3/3	0/1	0/1	0/1
Express a pattern of response to	1/1	0/1	0/1	1/1
Have positive attitudes and interests in literature	2/3	0/1	0/0	1/1

1. The number to the left of the diagonal represents the emphasis at age fourteen, that to the right the emphasis at the end of secondary school: 3-major emphasis, 2-minor emphasis, 1-slight emphasis, 0-no emphasis

In the United States, the IEA tests were developed and administered at much the same time as the first round of the National Assessment of Educational Progress (NAEP). Although the findings are comparable on a broad national basis, the two studies were designed differently enough so that they complement each other. The National Assessment gathers little background

Table 3

The Reading and Literature Tests

	Number of Tests	Time (in minutes)
Reading, Population I (8 passages, 45 items)	2	45
Reading, Population II (8 passages, 52 items)	2	45
Reading, Population IV (8 passages, 54 items)	2	54
Reading speed (40 minutes)	1	4
Word Knowledge, Populations I and II only (40 items)	1	10
Literature test ("The Sea") (response preference, comprehension, rating)	1	50
Literature rotated test X ("The Use of Force") *or* Y ("I See You Never") *or* Z ("The Man by the Fountain") (each with response, preference, comprehension, and rating)	1	50
Literature involvement or transfer and interest	1	15
Student questionnaire:		
General	1	30
Reading	1	15
Literature	1	15
Teacher questionnaire		
School questionnaire		

data and no teacher or school data so that few correlations with performance can be determined. On the other hand, the IEA studies do not include either race or region of the student.

Sample

Internationally, the students in Population I were defined as *all students aged ten years but not age eleven and in full-time schooling at the time of testing*; those in Population II were defined as *all students aged fourteen years and in full-time schooling at the time of testing*; those in Population IV as *all students in the final year of full-time secondary courses leading to university entrance qualifications, or of full-time courses of the same length.* For the United States this definition meant for Population I, mostly Grade 4 students; for Population II, mostly Grade 9 students; for Population IV, Grade 12 students.

For the first stage of sampling, a complete listing was prepared for the United States of (1) all towns and cities of over 10,000 population, and (2) all non-urban counties, as defined by the U.S. Census. Two items of information were obtained for each sample unit defined above. These were (1) median education of the adult population and (2) median income per family. Combination of these two provides a simple, available index of socio-economic status on which the communities may be stratified.

Communities were grouped into several size categories, for example, county units, cities of 10,000 to 25,000, cities of 25,000 to 50,000, and so on. Within each size category there were three categories of socio-economic status as defined above. Each socio-economic level for each size category was divided into two strata in most cases—one for public schools and one for parochial schools. In addition, there were separate strata for public schools in cities over one million, Catholic schools in cities of over one million, and private non-Catholic schools. In selecting communities for each stratum, random sampling procedures were employed. A first and second alternate were chosen to allow for noncooperation.

The second task was that of sampling within communities. In the smaller communities it was possible to go directly to the pupil as the second stage of sampling. Here the plan was simply to list all pupils in the defined target population whose birthday fell on specified days of the month, for example, the 1st, 9th, and 22nd for a one in ten sample. For the ten- and fourteen-year-old populations, the attempt was made to test all students who had the required birthdates regardless of the grade in which they were studying. For the twelfth-grade group (Population IV), students in the last year of secondary school were included in the sample. Thus, the plan was to test a completely random sample of the age or grade group.

In larger communities, it was necessary to interpose a stage of sampling between the selection of the community and the selection of the single pupil. This required the selection of a sample of schools from among all the schools within the community unit. Where this was done, an attempt was made to have the local school authorities list all the schools in order from "best" to "worst." The list was then broken up into several strata, the exact number depending upon the number of schools to be used in the community, and a school (with a first and second alternate) was chosen from each stratum.

The above procedures were used for drawing the sample for each of the three target populations identified for the study by the IEA project. The same group of communities were to be used for selecting the sample for each target population. It was planned to test about 6,000 students from 400 schools at the Population I level. At Populations II and IV, it was planned that 5,400 students from 300 schools would be tested in each subject. The increased number of students at Populations II and IV results from the United States decision to carry out a split testing at these levels. That is, two mutually exclusive subsamples of students were randomly drawn for testing in each school. One subsample took the science instruments and associated questionnaires and scales. The other group took the mother tongue tests and associated questionnaires and scales. Procedures for conducting the split testing were worked out with the data processing staff. Because of the six rotating forms of the Population IV science tests and the three rotating forms of the literature test, it was decided that a multiple of six should be tested in each subject area at Populations II and IV. Eighteen is such a number. The desire to test in 300 schools at each population, resulted in a total of 5,400 students to be tested in each subject at Populations II and IV, or a total number of 10,800 students per population.

Table 4 shows the general sample structure which was used in the United States.

The Major Cross-National Findings

A part of the IEA studies dealt with cross-national comparisons (although the studies were not primarily engaged in determining international league tables) but, because of the diversity of countries and because there were so many different dimensions of achievement, it would be hard to assert that any one country was the best or worst. Figures 1 and 2, which present a country's scores in relation to an international mean, illustrate the complexity of any assertion about which country is best. New Zealand stands high in reading comprehension and literature achievement, but not well in reading speed, transfer, and interest; whereas countries like Iran and Chile score poorly in the comprehension test but high in transfer and interest. There are

also major differences between the performances of the two age groups in their relative performance internationally, which draw attention to relatively large gains and losses, though these are probably less great within a country than they are on an international scale. These figures have to be reviewed from an international perspective rather than from the perspective of age. Perhaps the only clear conclusion that one can draw lies in the sharp difference in performance between the so-called developed and developing nations, a comparison that is not particularly enlightening, except to show that economic gaps are matched by educational gaps.

In international comparisons of the achievement of Population IV students, it is essential to take into account in each country the extent to which pupils at that stage are a selected group. In some countries comprehensive education persists through secondary school; in others, like New Zealand, relatively few students reach Form VII. If one assumes that a selective system keeps the best students (not necessarily a warranted assumption), and if in the most selective system 9 percent of the age group are in the last year of secondary school, then one could infer that these are the best 9 percent in that country. Then one could compare the performance of the best 9 percent in all countries. Figure 3 presents this comparison as well as that of the best 5 percent and best 1 percent, to show that excellent performance is at about the same level in all countries. One might conclude that the Population IV students in New Zealand (where only 13 percent of the age group are still in school) are matched by the best students in other countries. One cannot say

Table 4

General Sample Structure

Major Strata	Total Number in U.S.	Number Tested	Percent of Schools	Percent of Pupils in Each School
Over 1,100,000	5	2	6(1 in 16)	10
500,000 to 1,000,000	15	3	12½(1 in 8)	10
250,000 to 500,000	30	3	25(1 in 4)	10
100,000 to 250,000	80	8	25(1 in 4)	10
50,000 to 100,000	200	10	50(1 in 2)	10
25,000 to 50,000	425	10	100	10
10,000 to 25,000	1,300	13	100	25
County Units	2,800	16	100	50

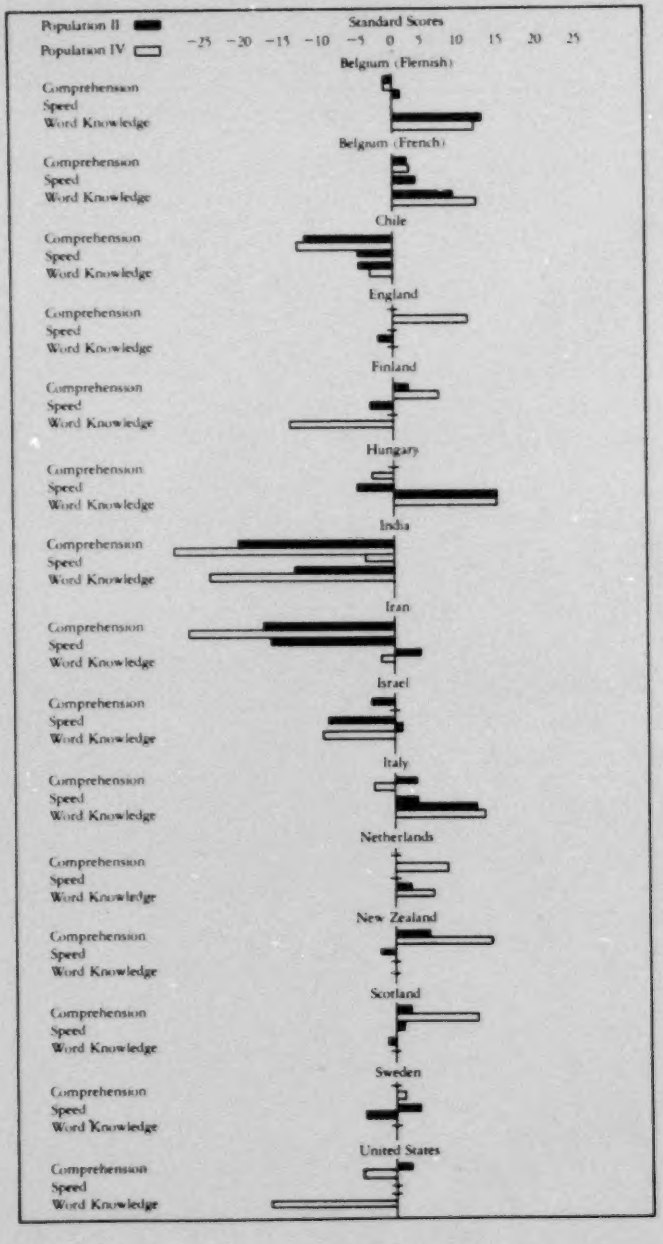


Figure 1. Cross-National Score Profiles: Reading.

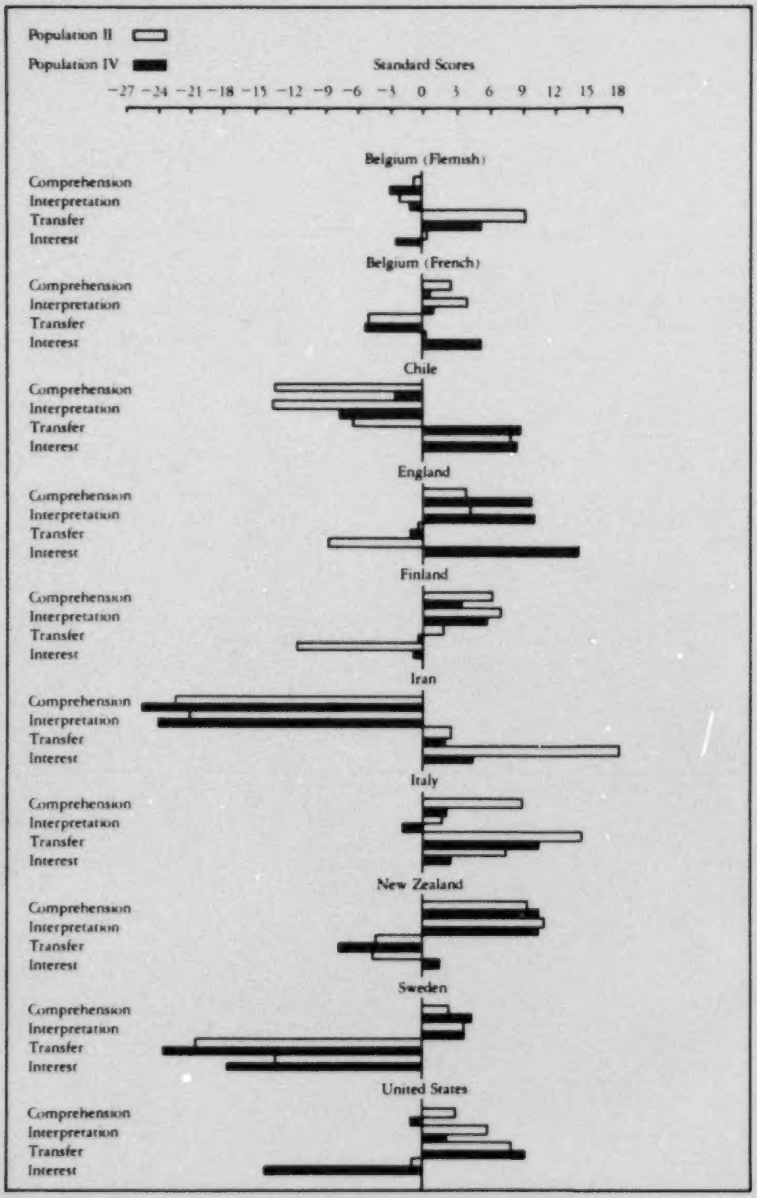


Figure 2. Cross-National Score Profiles: Literature.

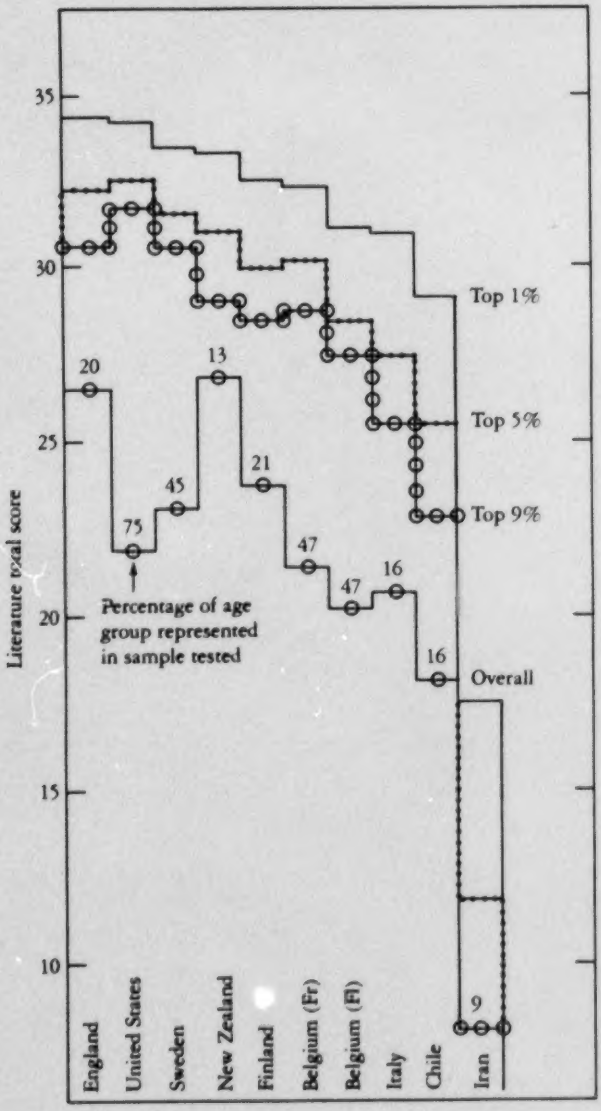


Figure 3. Degrees of Excellence in Population IV—Literature (mean score of top 1 percent, 5 percent, 9 percent, and overall group).

that all New Zealand seventeen and eighteen year olds are better readers of literature than their counterparts in other countries; one can say only that there are fewer low-scoring children still in school in New Zealand. The United States, on the other hand, brings a higher proportion (75 percent) of its age cohort farther along in reading than any other country in the sample without the best students suffering.

Cross-National Results—Response Preference

As was suspected early in the study, achievment in literature meant different things in different countries: emphasis in one country might be on literary history, in another on mythology, in another on the moralistic uses of literature, in yet another on critical analysis. But, without exception, the different curricula required the reading of texts, followed by discussions in which everyone was involved, which in turn led to written work. From visiting different classrooms in different countries, the literature committee suspected that the very nature of the talk or writing would differ; for example, in one country the talk might be about political aspects of the work, in another about its psychological aspects, and in another about its personal effect. To ascertain these differences and verify these impressions, an inventory based on an analysis of the essays of students in several countries was constructed (Purves and Rippere, 1968). The inventory of response preference was presented to students three times, once in a questionnaire asking them to identify the five questions they thought most important in dealing with literature in general, and twice more after they had read two short stories. One could, therefore, get a sense of whether an approach to stories in the abstract was the one used by a student after actually *reading* a particular story. The same twenty questions were given to the students' teachers. A group of college professors and teacher trainers in each country was also asked to rate the questions as to their importance in teaching or in the curriculum in general. Thus, three levels of people rated the questions: experts and planners, classroom teachers, and students.

Although the results of any inquiry can be looked at in a number of ways, the committee chose to view the variation in choice of question according to *story*, according to *age*, and according to *country*. On the basis of some earlier story inquiries, it had been guessed that a student would tend to choose the same questions regardless of the story to which the questions were attached—or regardless of whether they were attached to a story at all. The results only partially confirmed the guess. On an international average, of the fourteen year olds, only 9 percent chose three or more questions consistently over each of the three opportunities. A larger percentage failed to repeat itself on any of the three opportunities. At the eighteen-year-old level, the students

were slightly more consistent: 15 percent chose three or more questions consistently on each of the three opportunities. The most consistent students were those in New Zealand and England; the least consistent were those in Iran and Chile. There is a clear trend in all the countries for students to become more consistent as they progress through secondary school.

Another way of looking at consistency here is to look at the correlation of choices between the stories and the questionnaire: to see if students tend to choose in the concrete what they choose in the abstract. If a boy claims he is uninterested in girls, but turns to ogle every girl that walks by, then his protestations and his actions can be said to be inconsistent. It was that kind of consistency with respect to literary response that the committee was looking at. Overall in each country the preferred choices following the stories coincided with those following the questionnaire. The average correlation across countries for the fourteen year olds is .57, that for the eighteen year olds is .72 (a perfect match would be 1.00; a perfect mismatch −1.00; and no association 0.00). But there are strong differences between the stories despite this appearance of conformity. The story "The Use of Force," for example, differs from the others in that students tend to ask more questions about whether the story should even have been written, about what is happening in the story, and about the story's theme and plot. Ray Bradbury's "I See You Never" elicited more questions about the language in the story, hidden meaning, and the value of the work in drawing out the reader's emotions. It is clear that there is a tendency for different stories to elicit different responses; each story also elicits responses that differ from those picked on the questionnaire. At the same time, there is a tendency for older students to be more consistent than younger ones and to choose the same questions regardless of the story. That tendency needs to be further explored.

The analysis indicated that by chance any one question would be chosen at any one time by 25 percent of the students (there were twenty questions and each student was to choose five). One might suspect, however, that if students were consistent with each other within a culture of a country, they would tend to choose certain questions with greater frequency and to reject others vehemently. The average of 25 percent would remain, but the curve depicting choice might be quite different from a group which simply chose the questions at random. The statistic used to describe this phenomenon is the standard deviation: a number indicating diversity from the hypothesized mean for each item of 25 percent. The smaller the standard deviation, the more similar to each other are the members of a particular group. In this study, the lower standard deviation would indicate a lack of clear-cut choice among the twenty questions; a high standard deviation would indicate that in a country there were some very popular questions and some very unpopular ones. For the fourteen year olds, the average standard deviation across all

countries was ten percentage points. For the eighteen year olds, it was fifteen percentage points, so one may infer that the older students clearly tended to be more definite in their likes and dislikes among the twenty questions. In Finland and England there occurred the greatest difference between the two age groups; in the United States and Iran, they were most like each other in this respect. In England and Finland, then, students seem to acquire very clear preferences among the questions. In Iran and the United States, what patterns exist are already set by the age of fourteen. One has, then, a fairly clear sense that students' choice of questions, what is called their response preference, is partly determined by the story but partly by some external factor; that the choice falls into increasingly clear patterns as students progress through secondary school; and that students tend to become more like each other as they get older. The question then remains as to whether these tendencies are accompanied by differences between countries and then to see what the effect of schools might be.

In terms of the question preferred, students in different countries were both similar and different. Students generally rejected the questions, Is this a proper subject for a story? and Is anyone in this story like people I know? They generally preferred the questions, Has anything in this story a hidden meaning? and What happens in the story? Aside from these universal rejections and predilections, the countries seem to produce students with sharply different profiles of response. Two sets of questions form the coordinates on which one could plot the major differences between countries: the first coordinate would include an emphasis on point of view and personal interpretation (What does the story tell me about people like the people I know?), together with a subordination of personal feelings of evaluation of the meaningfulness of the work and of the historical background. The second coordinate includes a strong emphasis on interpretation (character motivation, thematic interpretation, and moral interpretation) and a lack of emphasis on form and structure. This coordinate could be said to form a form-content continuum; the first, a personal-impersonal coordinate (Figure 4). Belgium and Italy are countries which emphasize the impersonal and the formal; Chile, England, and Iran emphasize the personal and content-oriented response. The United States students are concerned with content but not from a personal point of view.

To delineate the subtle differences between countries and between age-groups within countries is not the purpose of this chapter, but some comment on the three English-speaking countries—England, New Zealand, and the United States—will be instructive. The English students seem to fall into two groups by the time they reach the last year of secondary school. The first group concentrates on the questions: What literary devices are in the work? How does the way the work is written relate to what is said? How is the

work organized? What does the writer think of the people in the work? The second group is concerned with How can we explain the way the people behave in the work? How does the work make me feel? and Does the writer succeed in arousing my emotions? The first group is concerned with formal criticism, the second with the students' feelings. Both groups strongly reject the questions that would directly relate the work to the student's life. Whether these groups are in separate schools has not been determined. In New Zealand, the students at the end of secondary school fall into three groups: one concerned with the writer's point of view, the structure of the work, and the literary devices in the work; the second with the point of view, literary devices, and theme; and a third with point of view, theme, and symbol. The three groups range from the formal analyst to the interpreter of form; all are variations on a narrow band and are quite different from the diverse groups in England. One group of high-school seniors in the United States is concerned with symbolic meanings, structure, literary devices, and morals; another with hidden meanings, themes, and moral interpretations; and a third with morals, the feelings of the students, and the capacity of the work to evoke feelings. The fourteen year olds are remarkably like the eighteen year olds. There are some common elements among the three countries, but the differences are more striking than the similarities.

At this point, then, one can conclude that preferences among responses are dependent partially on the text, but also on what one might call the culture of the student, and that patterns of preference become more sharply etched as students progress through secondary school. The question then remains as to whether these patterns are learned in school. One way of determining that would be to see whether the students' preferences are those

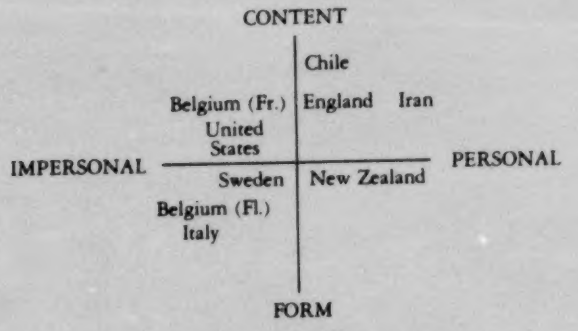


Figure 4. Position of Countries Relative to Continua of Personal-Impersonal and Form-Content Responses.

of the curriculum makers and the teachers. In general, the preferences of the students and teachers are more similar than different. For the younger students, the rank-order correlation between student and teacher is 0.35 (the lowest is Chile with −0.05 and the highest Italy with 0.54); for the older students the average is 0.44 (Iran as the lowest with −0.10 and Chile the highest with 0.71). The Iranian results are somewhat suspect on other grounds, so that if one were to exclude Iran, the average for the younger group would be 0.38 and for the older group 0.50. In any event, there is a clear indication that students agree with their teachers and tend to agree with them more as they get older. In the case of both student and teacher, the figures are based on the questionnaire responses and not based on response to a given story. In the three English-speaking countries, the correlations are not as great between the eighteen year olds and their teachers as they are in Finland, or Chile; nevertheless, the correspondence is strong in England (0.44). Experts in each of the countries were asked what emphases with respect to the twenty questions they saw in the official or semi-official curricula. As one might expect, within a country, they disagreed, some being more academically oriented, others more pedagogically oriented. Yet we found a national consensus. Although there was considerable disparity between experts, students, and teachers—notably in New Zealand—in general, there is a remarkable congruence between groups, and a strong tendency for the teacher to act as the mediator between expert opinion and student preference. The teacher, in short, tends to be a major force in influencing the student's choice of critical approach.

So far, circumstantial evidence leads one to the conclusion that whatever else schools may fail to do in literature education, they succeed in imparting to students a preferred way of approaching literary works. For example, older students tend to be more definite in their choices of responses than do younger ones; older students tend to agree more closely with teachers than do younger ones; differences between countries would seem to indicate that the differences are not entirely attributable to maturation (as regards reading interest, students tend to conform to an international age pattern rather than to national patterns across ages). These general trends are supported by the finding that students in different countries tend to differ with respect to groups of choices. Although all students may choose the question Has anything in the work a hidden meaning? they differ as to their choice of other questions. With this set of international results as a background, one may proceed to the analysis of the results for the United States in reading and literature. In part, this analysis reviews material published in the initial studies, but more information has been drawn from reanalysis of the data. The reading and literature results are treated separately.

A Brief Comparison with the National Assessment

As was noted earlier, the IEA tests were administered almost at the same time as the National Assessment, and although their purposes differed, the general results were remarkably similar. Achievement scores were related to socio-economic status. Poorer areas in the United States showed lower scores than richer areas—a parallel to the difference between developed and developing nations. In literature, the response profiles of United States seniors were quite similar in both studies, although the National Assessment reported these profiles in more general categories. In neither of these studies was the question *why* raised, nor were many details given.

2 What Teachers of Reading and Literature Reported about Themselves

As a part of the general purpose of examining the achievement of students, the IEA studies included a fairly extensive questionnaire directed to the teachers (see Appendix A). The teachers who responded were not necessarily the actual teachers of the students, but all of the teachers of the subject in the students' school. This type of sampling was undertaken so as to prevent student scores from being related to a specific teacher. While the sampling served to protect the teachers, it prevented certain kinds of analysis, and limited any discussion of teacher effects to a generalized effect, which might best be described as pedagogical atmosphere.

Nonetheless, the data do permit one to gain an overview of certain characteristics of English teachers at the elementary, junior high, and senior high schools. Despite the various school configurations in the United States, one might safely assume that Population I teachers would be in elementary schools; Population II teachers in junior high schools; and Population IV teachers in senior high schools. If a sampled school included both Population II and Population IV students, any one teacher responded in terms of one population only.

Fixed Characteristics of the Teachers

In many respects the teachers appear to meet most of one's expectations. The preponderance of them are female, although there is an increasing proportion of males in the senior high school (Table 5). A majority of the teachers at all levels are relatively young although the senior high-school group appears somewhat older than the other two. As one might expect, teachers are, for the most part, college educated; the high-school teachers are trained in English—but not in reading, surprisingly and disappointingly. The high-school teachers appear to hold more stable careers than the elementary and junior high-school teachers, as might be expected given the higher proportion of men in that group, and given conventional occupational roles.

The Teachers as Professionals

A number of the items on the questionnaire dealt with the professional involvement of the teachers. A higher percentage of the group belong to a general teaching association than to a subject matter association, but a relatively large proportion appears not to keep up with the latest trends in their field (Table 6). The lack of inservice training in the substance of their

Table 5

Selected Characteristics of Teachers

	Population I	Population II	Population IV
Number[1]	787	320	370
Female	89%	68%	61%
Age:			
Less than 27	34%	34%	32%
28–37	21%	23%	22%
38–47	15%	19%	18%
48–57	16%	15%	16%
Over 58	14%	9%	12%
Completed more than four years post-secondary education	70%	81%	79%
Majored in English	11%	65%	83%
Modal number of hours of preservice instruction in reading	Over 10(57%)	0(43%)	0(42%)
Years of Experience:			
Less than 5	35%	36%	31%
5–10	22%	27%	21%
10–20	20%	19%	23%
20–30	14%	9%	13%
Over 30	9%	9%	11%
Years at Current School:			
Less than 5	63%	54%	54%
5–10	18%	28%	24%
10–20	14%	13%	13%
20–30	4%	2%	7%
Over 30	1%	3%	2%

1. All further percentages are based on these *n*'s.

profession is particularly noticeable among teachers at all levels, although a fair proportion of elementary teachers have had some training in reading and a similar proportion of high-school teachers have had some in literature. It would appear from these data that a large proportion of the teaching force takes little action to improve its subject matter competence.

Another aspect of a teacher's professionalism appears in the reported amount of time spent preparing lessons and grading papers (Table 7). Elementary teachers spend less time on both tasks, perhaps because of the structure of their classroom and their day. Senior high-school teachers spend less time preparing and more time marking than do junior high-school teachers, as might be expected if one assumes that more writing is assigned in senior high school. Although it might be argued that teachers teach through testing, some may question that assumption in the light of the

Table 6

Professionalism of Teachers

	Population I	Population II	Population IV
Member general teaching association	82%	74%	79%
Member subject teaching association	15%	54%	62%
Read teaching periodicals frequently	51%	53%	48%
Read subject periodicals frequently	43%	54%	56%
Attended an educational conference in past year	67%	58%	65%
Modal number of weeks of inservice training within the past five years			
in Literature	0(58%)	0(42%)	0(38%)
in Reading	0(27%)	0(50%)	0(60%)
in Linguistics	0(61%)	0(48%)	0(50%)
in Philology	0(86%)	0(70%)	0(79%)
in other aspects of English/Humanities	0(55%)	0(42%)	0(41%)

recent furor over test-score decline. The fact that another 39 percent of the high-school teachers spend less than six hours a week grading seems to support the questioners.

The Teachers and the Curriculum

The teachers were asked a number of questions about the curriculum in reading and literature: how it is determined, how it is assessed, and its nature. Table 8 presents their impression of the forces that determine the curriculum they teach; it also presents some anomalies. The lifetime needs of the student could be interpreted as a surrogate for teacher autonomy, since the teacher would determine those needs. Yet it is clear that some constraints are placed on this autonomy, particularly for elementary teachers who are confronted by syllabi, textbooks, and the pressure of what occurs in the next grade. Few teachers at any level have much freedom to choose textbooks; 69 percent of the junior and senior high-school teachers report that texts are selected by a teacher committee and 71 percent of the elementary school teachers also report the selection is done by a local committee (whether within the school or not remains a question). It would appear that most teachers sense some constraint upon their autonomy.

One kind of constraint, of course, is the kind of assessment procedure used; for if the teacher is bound by external tests and teaches to them, the teacher's autonomy is reduced (Table 9). To a great extent, teachers at all levels create their own modes of assessment, although standardized tests loom in the background, particularly in the elementary school and junior high school. As might be expected, students take more essay tests as they go through school and the amount of homework also increases. Curiously,

Table 7

Time Spent on Preparation and Marking

	Population I	Population II	Population IV
Modal number of hours per week preparing lessons	3-6(42%)	6-10(41%)	6-10(36%)
Modal number of hours per week grading and marking	3-6(47%)	3-6(40%)	6-10(39%)

however, fewer senior high-school teachers appear to assign term papers than do junior high-school teachers. This is one of the few breaks in what one might otherwise call an explicable pattern.

Table 8

The Important Determinants of Curriculum

	Population I	Population II	Population IV
Rated as an important determinant:			
What students will need after school	78%	80%	84%
An official syllabus or curriculum	50%	30%	30%
Prescribed textbook	29%	14%	15%
Standardized tests	10%	10%	11%
What students will need in next grade	70%	55%	55%
Teacher has autonomy in choosing textbooks	15%	17%	18%

Table 9

Mode of Assessment Used Frequently

	Population I	Population II	Population IV
Standardized tests	13%	7%	7%
Essay tests	19%	60%	76%
Teacher-made objective tests	54%	60%	51%
Homework	40%	53%	51%
Projects and term-papers	35%	45%	41%
Have used a standardized reading test in the past six months	87%	66%	48%

The actual goals of instruction will be discussed later in this chapter, but here one should note that 31 percent of the elementary teachers see reading and literature as part of an integrated language arts program, as do 53 percent of the junior high-school teachers and 43 percent of the senior high-school teachers. It would appear that the advocates of an integrated program would have to proselytize the hardest in the elementary school.

Instructional Practices

One means of describing the curriculum is to infer it from the stated practices of teachers (Table 10). It is quite clear from the frequencies with which various techniques are employed that the structure of instruction becomes increasingly constrained as a student passes from elementary to secondary school. The variety of activities diminishes greatly as does the teacher's sense of the variety of student levels of ability and of the need to cater to that variety. Whole class instruction becomes the order of the day in senior high school and that instruction is dominated by recitation and discussion. The aims of instruction become focussed more clearly on historical and critical approaches to literature, on what might be termed the academic approach. In a question asked of only the Population II and IV teachers, 32 percent of the Population II teachers do *not* use drama or improvisation as compared to 44 percent of the Population IV teachers, another index of the decrease in student activity. Whether this trend towards the curriculum of talk and away from the curriculum of activity represents a purposive preparation for college one cannot tell. One can only wonder about the desirability of the trend.

Teachers' Practices and the Performance of Students

As we have seen, teachers' practices vary according to the experience of the teachers and the level at which they are teaching. One might also consider how they vary according to the overall achievement of the students. To perform this analysis, the schools at Population II and IV were divided into three groups: those placed more than one standard deviation below the mean of school mean scores in reading; those between one standard deviation below and one standard deviation above the mean; and those more than one standard deviation above the mean. For each of these three groups the mean values for teachers' responses to certain questions were determined, and trends of difference were noted.

The trends for low-achieving schools cited in Table 11 are those in which the direction is constant and greater than .18 (in most cases the questions were asked on a three-point scale). Table 11 indicates a fairly clear relationship between a style of instruction and student performance. At both levels teachers in low-achieving schools use more objective tests, see textbooks as

Table 10

Proportion of Teachers Using Selected Techniques Frequently

	Population I	Population II	Population IV
Within class ability grouping	51%	21%	13%
Textbook	83%	61%	73%
Printed drill material	32%	19%	14%
Individualized or programmed packets	30%	19%	12%
Small group work	55%	36%	31%
Individual tutoring	43%	31%	28%
Audio-visual aids	66%	33%	27%
Field trips	14%	7%	5%
Lectures	10%	19%	25%
Questioning	81%	80%	84%
Discussion	88%	87%	89%
Individualized instruction in reading	75%	33%	24%
Reading groups	79%	20%	11%
Student oral reading	82%	68%	64%
Teacher reads aloud while students listen	86%	61%	62%
Teacher reads aloud while students follow	68%	69%	66%
Teach to increase reading rate	68%	46%	35%
Allow class-time for free reading	95%	84%	77%
Have a classroom library	79%	50%	48%
Assign a dictionary to each student	67%	51%	31%
Assign or recommend ancillary material			
Histories of literature	34%	50%	61%
Handbook of critical terms	13%	41%	61%
Biographies of authors	60%	85%	84%
Critical essays on works	18%	53%	73%

important determinants of what they do, use more printed drill, more individualized reading instruction, and more oral reading. They tend to require less writing and lecture less. In junior high schools, they tend to use more programmed and more audio-visual material and less homework, small group work, field trips, and questioning. In senior high school, too, they appear more bound by external examination and standardized tests. The only difference in direction occurs with respect to homework, perhaps because more of the work in low-achieving junior high schools is done in class. In sum, the teachers in low-achieving schools appear to use more "busywork" and less work that allows for individual expression. They tend to do those things that keep the students occupied individually and keep them quiet.

Table 11

Relative Direction of Frequency
Teachers' Practices in Low-Achieving Schools

	Population II	Population IV
Use for assessment		
standardized tests		+
essay tests	−	−
teacher made objective tests	+	+
homework	−	+
projects and papers	−	−
Criteria to determine teaching		
textbooks	+	+
external examinations		+
Methods and materials used		
textbooks		+
printed drill	+	+
individualized or programmed material	+	
small group work	−	
audio-visual	+	
field trips and projects	−	
lectures	−	−
questioning	−	
within-class ability groups		+
individualized reading instruction	+	+
students read aloud	+	+
teacher reads aloud students listen	+	
teacher reads aloud students follow	+	+
drama and improvisation		+

Whether these activities bring about low achievement or follow from it cannot be determined.

Differences That Accompany Experience

Although it has already been noted that the teachers were a relatively young group, one might examine the differences between more and less experienced teachers. Pearson product-moment correlations with experience were generated and all correlations with a significance level of .009 or better were included for discussion (Table 12). These correlations were generated for junior high-school and senior high-school teachers only. From these correlations, the following picture emerges. More older teachers in both groups tend to be female, to have had more years of education, to have had training

Table 12

Selected Correlations with Experience of Teachers

	Population II	Population IV
Sex (female)	.82	.87
Years at school	.72	.71
Have had preservice education in reading	.23	.22
Member of teacher association	.16	.13
Member of subject association	.28	.30
Reads teaching periodicals	.30	.33
Reads subject matter journals	.22	.28
Attends conferences	.13	.24
Hours spent grading papers	.20	.13
Use of standardized tests	.32	.31
Teaching affected by prescribed curriculum		.19
Teaching affected by prescribed text		.21
Teaching affected by standardized test	.16	.25
Use individualized materials		.15
Use within-class grouping		.23
Assign a dictionary		.26
Require biographies of authors		.17

in reading but not to have majored in literature, and to be active in their profession through membership in associations and through reading journals and attending conferences. One might conjecture that the professional stays in the profession, while a large number of young teachers are merely marking time before moving to some other activity. Such a conjecture confounds the notion of teacher-trainers that they are preparing an even more professional cadre of teachers.

More experienced teachers tend both to be more strongly influenced by standardized tests and to use them more. Of the senior high-school group, more experienced teachers tend to be more influenced by the syllabus and the prescribed texts as well as to use the texts more. They also tend to use within-class grouping, to assign dictionaries, to have a class library, and to require author biographies. One might view these tendencies as conservative—or as pragmatic following the line of least resistance. Whether the tendency is to be deplored or encouraged remains open.

Teachers' Instructional Goals in Literature

One part of the teacher questionnaire asked teachers of literature to rank in order of importance a set of eight goals of instruction in literature. The results are displayed in Table 13, and show that the only difference between the two groups of teachers lies in the importance of the heritage and language (the teacher of senior high-school students being somewhat more concerned with the heritage and those of junior high-school students with language). This difference would appear to be consonant with the general aims of literature instruction at the two levels.

Because the two groups are roughly similar and because the goals of senior high-school teachers would appear to have a stronger influence on the whole secondary school curriculum, further analysis was performed using only the Population IV teachers. A first step in this analysis was a correlation of the frequency means for each of the goals with the others (Table 14). Apparently, the goals are mutually exclusive in the eyes of the teachers, except for those who group the history of literature and the literary heritage together. The two goals which speak to language, either that of the students or that in the text, stand most sharply apart from the others, an oddity if one believes that it is through language that a student gains self-understanding or discussion skills or critical acumen, a position held by most of those who have written about the literature curriculum.

When one looks at the relationship between goals and other teacher characteristics, one finds a few patterns (Table 15). The correlations listed are all significant at or above the .01 level of confidence and can help make some sort of profile of teachers who value a goal highly.

Taste-oriented teachers. Teachers who favor improving students' taste appear to be older, to have a degree in English, and to be more experienced. They tend to assign projects and term papers, but not to use textbooks, standardized tests, drills, or within-class grouping. They do use small-group work.

History-oriented teachers. This group appears to be the one that keeps up most significantly with the field. Curiously it tends not to assign histories to the students.

Heritage-oriented teachers. These teachers again are older and more experienced and tend to use textbooks less frequently than others. Like the taste-oriented teachers they may reflect an approach to literature characteristic of their own teachers.

Self-understanding-oriented teachers. These teachers are not necessarily teaching their speciality nor are they interested in it; thus their preference for the goal may come from a general educational bias,

Table 13

Rank Order of Goals of Instruction

	Population II	Population IV
To improve the literary tastes of students	5	6
To teach the students the history of their literature	8	8
To acquaint the students with their literary and cultural heritage	5	4
To help the students understand themselves and the human condition	1	1
To develop the students' ability to discuss the variety of literary forms that are around them	7	7
To develop the critical faculties and analytic skills of students	2	2
To develop the students' ability to use their language	3	3
To show the students the ways by which language affects their response to events	4	5

rather than one specific to literature instruction. It is odd that the group tends to use standardized tests, follow a syllabus, and lecture, but not use small-groups, audio-visual material, or free reading in class. This pattern of practice would seem less "student-centered" than many.

Form-oriented teachers. The teachers who lean towards this goal are younger, less-experienced, than average. They tend to be members of a subject-matter organization. That their choice of goal reflects the recency of their training seems a clear possibility.

Criticism-oriented teachers. This group is also young and relatively inexperienced. In class these teachers tend to assess students with objective tests and homework and to use textbooks. They also tend to group their students and to use oral work more than other teachers and to encourage the reading of biographies of authors. Again the pattern may reflect recent training.

Student-oriented teachers. This group appears not to have had training in literature but to make up for it by hard work in preparation and marking. These teachers have had training in reading and use individualized instruction.

Language-oriented teachers. This group also spends a fair amount of time preparing for class but does not read journals. These teachers rely on projects and term papers less frequently than do others and do not have a class library.

None of these profiles is particularly surprising and the relationship of a goal to the recency of training suggests the strong effect of undergraduate education on teaching in America.

One further set of correlations with the goal preferences of teachers is worthy of note. The teachers were asked to rate each of twenty questions about a literary work on a four-point scale. These questions mirror the sub-categories of response in Purves and Rippere (1968). The correlations between goals and questions could help validate both goal and question (Table 16). The results are somewhat disappointing. Those concerned with taste do value the question about the propriety of the work and about the language of the work, but not about its realism. Those concerned with history tend to avoid questions dealing with character, theme, realism, or the reader. Teachers valuing self-understanding do ask questions about the work's content and meaning but not about language. Those valuing the exploration of the effect of language on the reader seem also to have a pattern of questions supporting that goal. The results therefore validate the goals but not all of them and not strongly. It would appear more profitable to explore the responses of teachers more directly.

Table 14

Intercorrelations of the Goals of Instruction

	Improve literary tastes	Teach history of literature	Gain acquaintance with heritage	Develop self-understanding	Develop ability to discuss literature	Develop critical faculties	Develop ability to use language	Show how language affects response
Improve literary tastes								
Teach history of literature								
Gain acquaintance with heritage		.37						
Develop self-understanding	−.26	−.26	−.11					
Develop ability to discuss literature			−.15	−.17				
Develop critical faculties	−.29	−.31	−.31					
Develop ability to use language	−.24	−.25	−.34		−.29			
Show how language affects responses	−.28	−.29	−.55		−.32	−.18	−.24	

Table 15

Correlations of Goals in Literature to Other Teacher Variables

	Improve literary tastes	Teach history of literature	Gain acquaintance with heritage	Develop self-understanding	Develop ability to discuss literature	Develop critical faculties	Develop ability to use language	Show how language affects response
Teacher's sex						−.14		
Teacher's age	.22		.22		−.21	−.18		
University degree in English	.12						−.13	
Teaching specialty subject							−.13	
Nonspecialty teaching				.16				
Years of teaching experience	.23		.23		−.14	−.15	−.16	
Years of teaching in the current school	.19		.16		−.18	−.12		
Hours spent per week in preparing lessons							.14	.13
Hours spent per week marking papers							.14	

Membership in subject-matter association				−.11	.17			
Read teaching journals				−.17				−.13
Read subject-matter journals		.14						
Assess students on objective tests						.12		
Assess students on homework						.12		
Assess students on projects and term papers	.12	.14		−.12				−.14
Use special syllabus in day-to-day instruction				.11				
Use prescribed textbooks in day-to-day instruction	−.14					.12		
Use standardized tests	−.14			.15				
Frequently use textbooks			−.13					.12
Frequently use printed drill material	−.15							
Frequently use individualized materials	−.14							
Frequently use small-group work	.12		.15		−.13			−.12
Frequently use audio-visual material					−.15			
Frequently use lectures					.10			
Use of within-class grouping	−.13							
Amount of inservice training in teaching reading			−.14			.12	.16	.15

Table 15 (Continued)

	Improve literary tastes	Teach history of literature	Gain acquaintance with heritage	Develop self-understanding	Develop ability to discuss literature	Develop critical faculties	Develop ability to use language	Show how language affects response
Students are allowed classtime for free reading				−.11				
Each student has his/her own dictionary					.15			
Have a bookcorner or library in the classroom						.14		−.16
Number of books in the bookcorner or library				.12				
Hours of preservice instruction in the teaching of reading								
Use individualized instruction reading						−.12	.14	
Use of within-class grouping for instruction in reading						.18		
Ask students to read aloud						.16		
Teacher reads aloud with the students listening		−.11				.15		

Use special techniques to improve students' rate of reading	−.13			
Endorse the reading of histories of literature		−.12		
Endorse the reading of handbooks of literary criticism				
Endorse the reading of biographies of individual authors				.15
Time spent on modern literature			.14	

Table 16

The Relationship between Preferences for Certain Questions and Curriculum Goals in Literature

	Improve literary tastes	Teach history of literature	Gain acquaintance with heritage	Develop self-understanding	Develop ability to discuss literature	Develop critical faculties	Develop ability to use language	Show how language affects response
Respective preference in asking questions on propriety of the subject	.15					−.18		
Respective preference in asking questions on literary devices				−.20				−.13
Respective preference in asking questions in language usage	.13			−.14				
Respective preference in asking questions on plot and point-of-view				−.10				
Respective preference in asking questions on form and content				−.11				

Respective preference in asking questions on structure			−.18	
Respective preference in asking questions on characterization and setting		−.18		
Respective preference in asking questions on universality		−.16	.32	
Respective preference in asking questions on genre			−.14	
Respective preference in asking questions on realism	−.16	−.25	.37	.18
Respective preference in asking questions on the moral or lesson			.12	
Respectsive preference in asking questions on the reader's emotions			.22	.14
Respective preference in asking questions on the significance of the work			.16	
Respective preference in asking questions on reader involvement		−.14		.17
Respective preference in asking questions on how the parts explain the whole work			.29	.12

Note: Correlations given are all significant at .01 or better.

Teachers' Responses to Literature

The teachers were asked to rate each of the twenty questions of the response preference measure on a four-point scale from "trivial" to "very important." In order to examine their patterns of preference, we selected first a factor analysis for the teachers at each population level and, since similar patterns emerged, for the two groups of teachers together. After deleting the three responses with the least in common with the group as a whole, a factor analysis followed by a Kaiser Varimax rotation revealed the patterns found in Table 17. The three omitted responses were Is it proper for an author to write a story on such a subject? How is the work related to the time in which it was written? and Is there any one part of the work that explains the whole work?

The results of this analysis indicate that there are two factors. The items showing the highest loadings on factor 1 deal with literary devices, language, the relation of technique to content, structure, evaluation of craft, symbols, genre, and tone. The factor is one of an impersonal formal approach not unlike that of the "New Critics." Certainly it has all the marks of academic text-centered criticism. As might be expected, factor 2 contains questions relating to the life of the reader: whether the reader finds a connection to the work, whether the work resembles the reader's perception of the world, the lesson of the work, the emotions aroused by the work and its success in involving the reader, and whether the work is serious and significant. These questions focus on the content of the work as opposed to the formal emphasis of the questions in factor 1.

After discerning that the teachers divide into two "schools" of criticism, one might then see whether belonging to a school implies a particular teaching style. A number of questions were selected from the teacher questionnaire that dealt with methods of assessment, teaching criteria, and methods and materials (Table 18). These formal aspects of teaching were then related to the two "schools" by means of multiple discriminant analysis, a procedure which seeks to find what pattern of variables makes a maximum discrimination among groups (Table 19). The procedure produced twelve variables that discriminated among the eight groups. Their function coefficients are displayed in Table 20.

The first analysis indicated that both functions were highly significant (.001), but that if one were to plot the position of the centroids along the two axes, they would not fall clearly into quadrants. If, however, the axes were rotated 45°, the results would clearly show the differences among groups. The rotation tends to modify the discriminant function coefficients somewhat. For further details see Appendix D.

Table 17

Loadings of Seventeen Response Preferences
from Teacher Questionnaire—English Section on Factors 1 and 2
(After Varimax Rotation)

Item Number	Response Preference	Factor 1	Factor 2
31	What literary devices did you notice in the work?	.480	−.051
32	Is the work symbolic or allegorical? What is its theme?	.393	.106
33	How would you describe the language of this work?	.596	.003
35	What happens in the work? Who is narrating it? What is the setting?	.291	.121
36	How is technique related to what the work says?	.677	.104
37	What is the structure of the work? How is it organized?	.702	.073
38	Is the work well written? Does the form support the content? Is it well constructed?	.681	.159
39	How would you interpret the character of this person? What is the significance of the setting?	.195	.213
40	Did you find that any of these people are like people you know? Did anything like this ever happen to you?	−.090	.637
41	Do any of the formal devices have any significance? What symbols do you find in the work?	.634	.096

Table 17 (Continued)

Item Number	Response Preference	Factor 1	Factor 2
42	What is the genre of the work? In what literary tradition is it?	.589	.049
43	Does this work describe the world as it is? Do you find the world like the way it is described in this work?	−.002	.651
44	What is the author teaching us? What is the work criticizing?	.095	.438
45	What is the tone in the work?	.409	.302
46	What emotions or feelings does the work arouse in you?	.103	.691
47	Is this work about serious things? Is it significant literature?	.327	.464
48	Does the work succeed in getting you involved in its situation? Is it successful in arousing your emotions?	.105	.689
		3.34	2.41

If teachers rank high in the first function, they tend to use essay tests rather than objective tests, to place a priority on the students' later needs, and to use textbooks and lectures but not field trips. This would appear to be an academic approach. If teachers rank high on the second function, they tend to value projects, be concerned for the demands of the next grade, and use audio-visual materials. They would seem, then, to be somewhat more student-centered for they reject essays and lectures and standardized tests. That they assess students with projects but do not use them in teaching would appear anomalous unless one concedes that what caught the teachers' eye was the phrase "field trips," which tend not to be part of the secondary school English routine.

Table 18

Twenty Curricular (Procedural or Formal) Variables from the Teacher Questionnaire—General Section

Item Number	Item Description
	Assessment:
17	Standardized tests
18	Teacher-made essay tests
19	Teacher-made objective tests
20	Performance on homework
21	Performance on projects, term papers, etc.
	Teaching Criteria:
22	What I think the students in my class will need when they leave school
23	The curriculum or syllabus
24	Prescribed textbook
25	Standardized tests that the student will have to take
26	What the student will need at the next grade or in their next course
	Methods:
27	Textbooks
28	Printed drill material
29	Individualized material
30	Small group work
31	Individual tutoring or individual conferences with students
32	Audio-visual materials—TV, films, slides, radio, etc.
33	Field trips and special projects
34	Lectures
35	Questioning
36	Discussion

The two functions serve to make quite different distinctions among the teachers (Figure 5). The first function discriminates between junior high-school and senior high-school teaching and makes a certain intuitive sense. The junior high-school teachers tend to use objective measures and field trips; the senior high-school teachers essay tests, lectures, and textbooks. The first function, then, serves to define the educational environment. The second function is much more clearly related to the factors, the first of which pointed to the formal critic, the second to the personalistic teacher. This latter group tends to use projects and papers, audio-visual materials, and be concerned with the demands of the next year in school. The formal critics use essay tests, projects, and lectures and tend to be concerned with the demands of standardized tests (presumably college entrance tests). The formal critic tends to teach in a more "academic" fashion.

There appears then to be a clear relationship between curricular thrust in literature and certain aspects of teaching style. Although that style is also influenced by the level of the students taught, it is clearly affected by the teacher's beliefs about response to literature. This finding is not surprising, perhaps, but its pervasiveness and clarity is of more than passing interest to the researcher and the curriculum planner, for it suggests clearly the relationship between content and style and, I would suspect, between content and training.

Table 19

Description of Eight Groups Used
in Discriminant Analysis of IEA Curricular Variables

Group ID	Population	Score on Factor 1[1]	Score on Factor 2[1]	Number of Cases
1	II	LOW	LOW	79
2	II	LOW	HIGH	79
3	II	HIGH	LOW	79
4	II	HIGH	HIGH	81
5	IV	LOW	LOW	79
6	IV	LOW	HIGH	87
7	IV	HIGH	LOW	83
8	IV	HIGH	HIGH	110

1. High and Low scores are in reference to the median value for each factor. This is done somewhat arbitrarily to secure approximately equal group sizes.

Table 20

Summary of Discriminant Analysis with
Twelve Curricular Variables and Eight Groups

Standardized Discriminant Function Coefficients			
Item No.	Item Description	Function 1	Function 2
	Assessment		
17	Standardized tests	−.3107	.0671
18	Teacher made essay tests	.2929	−.4147
19	Teacher made object tests	−.4608	.1947
21	Projects, term papers	.1536	.3127
	Criteria		
22	Needs after school	.4047	.0796
25	Standardized tests	−.1355	−.6447
26	Needs in next grade	.0719	.2708
	Methods		
27	Textbooks	.4782	.1626
30	Small group work	−.1461	−.1620
32	Audio-visual	−.0402	.2455
33	Field trips	−.3868	−.3298
34	Lectures	.2616	−.3347

Group Centroids		
Group	Function 1	Function 2
1	−.6037	.1630
2	−.1272	.5982
3	−.1638	−.3727
4	−.1826	−.0636
5	.3522	.0239
6	.2383	.2383
7	.0595	−.3525
8	.3350	−.1718

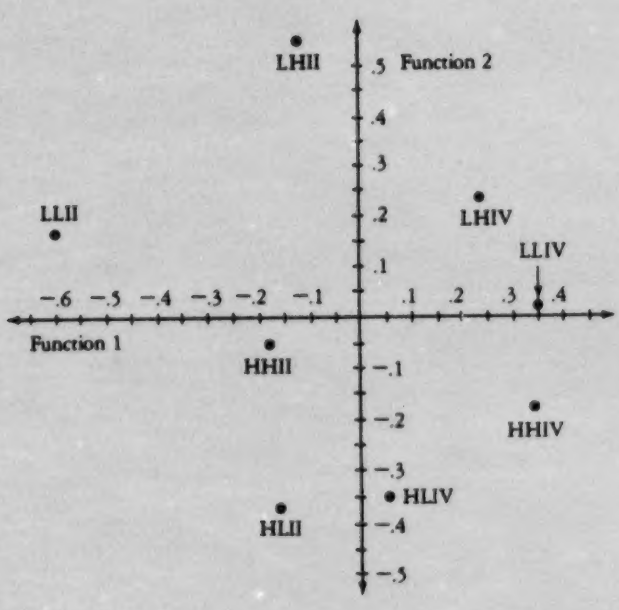


Figure 5. Projection of Eight Groups of Teachers with Respect to Two Discriminant Functions.

Summary

In this chapter, we have examined certain aspects of the profession of English language arts teaching in the schools of the United States. Teachers report that they are not in the profession long, that they take little care to improve their knowledge, and that they teach what they are told to teach. Although there are differences according to the age of the student, teachers tend to teach in a lecture or lecture-recitation mode and to be relatively unconcerned with student activity and talk. In low-achieving schools teachers do tend to rely on student activity, but whether it is mere "busy work" remains hard to discern. One might conclude that the teachers report themselves to be a conservative lot, one that becomes increasingly conservative with age.

Within this general pattern, we find that there are differences among teachers deriving from their perceived goals of literature instruction, the level at which they teach, and their preferred approach to literature. The nature of instruction depends, then, on the nature of the literary concern of the teacher, which may or may not be related to their perceptions of their students. One suspects, however, that these concerns arise from the teachers' preservice training, rather than their sense of their clientele. Instructional practices appear to be related to goals and critical stance, a finding which on the one hand can hearten the minds of those who view curriculum and instruction intertwined, but which on the other hand can dismay those who would like to see instruction and curriculum arising from the perceived needs of the students.

3 Achievement in Reading and Literature

One of the main aims of the IEA study was to determine to the extent possible those factors which best predicted higher achievement in reading, whether of individual students or of schools. The study could not, of course, determine the predictors of absolute achievement—why everyone learned to read somewhat. The only phenomenon one could examine was the difference between high-scoring and low-scoring students. To effect this examination, the cross-national study used the technique of multiple regression. The results of that analysis were not fully discussed by Thorndike (1973), so it seems appropriate to do so in this volume.

The analysis was a stepwise regression analysis (see Peaker, 1975), in which the variables were placed in blocks and the blocks entered in what might be called chronological order: first home background variables, then the type of school or type of program in which the student was placed (an index of prior education), then school and classroom variables, then the students' attitudes and interests, and last the score on the word knowledge test. For Population I, the science achievement score was entered before the word knowledge score; Population II and IV students took either science or reading and literature.

In examining the results of a regression analysis, one should note four phenomena: the amount of variance accounted for by a variable (increase in R^2), the regression and correlation coefficients, and the amount of unique variance accounted for by the variable (b^2/c). Since predictor variables are related to each other, one needs to determine the singular effect of any variable. To take an example from Table 21, dealing with the elementary school children, the occupation of the father is highly correlated with achievement, and accounts for 13.6 percent of the variance between high- and low-scoring students, yet it is also so correlated with such other variables as number of siblings, type of school, and the science score, that its unique contribution is negligible (.001). In fact, very few of the variables contribute much by themselves; the science score, the word knowledge score, and the sex of the student appear to have some independent effect on differences in achievement in reading.

The analysis gives one a mosaic of relationships to higher or lower scores in the test. High scorers tend to be girls from small families whose fathers have relatively high status jobs and which leave the child alone. They tend to be advanced in grade and in more academically oriented schools, with fewer teachers' aides, newer principals, and a dormant PTA. They are eager for school, read a fair amount, watch less television than others, and do well in other subjects. In sum, they are good students who enjoy what they are doing. The absence of teachers' aides suggests that these paraprofessionals are placed in schools with fewer able students. The newness of the principal is puzzling, however, but may suggest that principals use these schools as stepping stones to better positions with a fair amount of frequency. On the whole the analysis provides one with a description rather than any possible prescription for changing school policy.

The regression analysis for Population II, the junior high-school students (Table 22), adds to the description, but little more to the prescription. Again, home background and home library accompany higher performance. The more highly scoring student works harder, has a more mature teacher (and more often a male teacher), is in a larger class which is not grouped, and spends more time reading a fairly high quality fare. One curious phenomenon, to which we will return, is that the higher achieving student watches more television but goes to the movies less often than the less able student. Except for that anomaly, the analysis presents a picture of a reader from a good home in an academic school where there is more homework done without help from parents scoring well on tests of reading comprehension. The lack of grouping and the size of the class suggest that poorer students are placed in smaller classes with grouping rather than that these practices should be shunned.

With the high-school students (Table 23), the picture is much the same as for the elementary and junior high-school students. Better readers come from higher socio-cultural homes (the negative influence of age probably results from the fact that older students are grade-repeaters). They read, do their homework, have high aspirations, and like literature. Their schools have a high retention rate, are strictly evaluated, and have well-trained teachers. Again, nothing in the analysis helps lead one to a variable which, if changed, could bring about improvement in reading for more students. As one looks at the three tables, one notes a decreasing amount of explained variance as one moves from elementary to high school and a relatively high amount of joint variance. These findings suggest that the differences in achievement in high school must be accounted for by factors that the survey could not uncover, and, more, that reading achievement is a social phenomenon, a part of a general culture shared by the home and the school such that no one kind of school intervention can exert a dramatic effect.

Comparison of High-Achieving and Low-Achieving Students

One need not stop with the regressions, however, in one's search for explanation of relative performance, for the regression looks only at linear relationships between variables. A useful supplement may arise from an examination of the two tails of the distribution, to see what differences might distinguish high-performing from low-performing students.

The analyses performed with two groups (Population I and II) will be discussed together. To take certain fixed characteristics first (Table 24), one can see that although better readers tend to be girls, the percentage of girls in the low-scoring group rises from elementary to junior high school. The birth order and family size data clearly indicate that poor readers tend to come from large families and to be in the middle of the birth order. The reasons for this finding would appear to have something to do with the amount of opportunity the child has to be with parents and thus the amount of opportunity to develop language skills at home, although they might be attributed to the middle child's seeking to be different from the others.

The reading and viewing habits of the children tend to be supporting evidence for the scores rather than explanatory evidence (Table 25), in that low-achieving students may have had limited exposure to books at home and thereby impaired their reading performance. The students with high scores have more to read and take more advantage of that opportunity to read. The two age groups were asked about their television viewing in different ways so that direct comparison is not available (Table 26). For both age groups it would seem that more poor readers watch little television and that good readers watch a fair amount of television, thus confounding those critics who claim that television watching has a negative effect on reading. If any such effect is to be claimed, it can only be so claimed for younger students.

Another claim that has been made is that parental pressure has a negative effect on achievement. The students were asked a number of questions about their home lives; the results are given in Table 27. One first notices that there is generally less parental concern reported by the junior high-school child than there is by the elementary school child. At the same time, however, the parents of low-achieving students appear less interested in their children's school but more active in helping with homework, probably because their children ask for help. It would be hard to conclude from these findings that parental pressure has a sharply negative effect.

One final comparison of the two groups of students was done for Population II only, an examination of the parents' occupation and the students' expected occupation. Tables 28 and 29 present data on father's occupation and expected occupation. As might be expected the poor readers come from blue collar or lower white collar families and the good ones from managerial

Table 21

Regression Analysis
Reading, Population I—Between Student

Variable	Increase in R^2	Regression Coefficient	Correlation	b^2/c
Block I—Home Background[1]				
Father's occupation	13.6	.03	.37	.001
Number of siblings	.02	−.01	−.17	.0001
Sex	.005	.09	.07	.01
Age	.002	−.001	.01	.0000
Block II—Type of School	.01	.02	.19	.0003
Block III—School Variables				
Grade	.03	.03	.22	.001
Presence of teachers aides	.004	−.01	−.11	.0001
Number of years served by principal	.0004	.01	−.03	.0000
PTA raises money	.0004	.02	−.001	.0003
PTA is involved in parental education	.003	−.02	−.01	.0002
Block IV—Kindred Variables				
School motivation	.04	.004	.32	.0000
Hours of reading for pleasure	.02	.06	.28	.003
Parents help with homework	.003	−.01	−.07	.0001

Hours of television watching	.001	−.01	−.10	.0000
Like school	.001	.01	.08	.001
Block V—Science Score	.32	.50	.77	.11
Block VI—Word Knowledge	.04	.33	.74	.05
Total unique variance .17				
Total joint variance .51				

1. Reading resources in the home was entered and removed in Block V, Correlation .29

Table 22

Regression Analysis
Reading, Population II—Between Student

Variable	Increase in R^2	Regression Coefficient	Correlation	b^2/c
Block I—Home Background[1]				
Home background composite	.175	.125	.42	.01
Reading resources in the home	.04	.05	.33	.002
Number of siblings	.006	−.03	−.12	.001
Age	.001	−.02	.02	.0004
Block II—School and Program				
Type of program	.03	.08	.32	.005
Type of school	.001	.01	.10	.0000
Block III—School Variables				
Grade	.03	.10	.25	.01
Hours of homework per week	.01	.02	.25	.0003
Grouped for reading	.01	−.04	−.09	.001
Age of teacher	.004	.03	.13	.001
Sex of teacher	.002	−.03	−.05	.001
Size of English/reading class	.002	.03	.06	.001
Type of community	.002	−.04	−.07	.001
Within-class grouping	.003	−.000	−.08	.0000
Pupil/teacher ratio	.001	.01	−.05	.0001

Block IV–Kindred Variables				
Hours of reading for pleasure	.04	.11	.36	.01
Parents help with homework	.03	−.10	−.20	.01
Movie attendance	.02	−.09	−.18	.01
Research serious works	.01	.06	.24	.003
Newspaper reading	.01	.06	.19	.004
Expected education	.005	.05	.26	.001
Hours of television watching	.004	.05	.10	.002
School motivation	.001	−.03	.08	.001
Watching dramas and sports	.0004	.004	.05	.000
Block V–Word Knowledge	.15	.47	.69	.15
Total unique variance .22				
Total joint variance .36				

1. The variable Sex was removed in Block IV, Correlation .04

Table 23

Regression Analysis
Reading, Population IV—Between Student

Variable	Increase in R^2	Regression Coefficient	Correlation	b^2/c
Block I—Home Background				
Home background composite	.115	.09	.34	.006
Reading resources in the home	.04	.03	.29	.001
Age	.02	−.08	−.19	.005
Number of siblings	.003	.02	.09	.0002
Sex	.002	.02	.08	.0003
Block II—School and Program				
Type of program	.07	.11	.41	.009
Type of school	.007	.05	.07	.002
Block III—School Variables				
Hours of homework per week	.01	.05	.25	.002
Importance of examinations in determining curriculum	.005	−.07	−.07	.004
Evaluators report to higher authorities	.005	.08	.03	.005
Teacher's post-secondary school education	.006	.03	.08	.001
Enrollment at population	.003	.05	.10	.003

Block IV–Kindred Variables				
Hours of reading for pleasure	.02	.05	.27	.002
Read adventure, history, and biography	.01	.04	.28	.001
Homework procedures	.007	−.06	.03	.003
Reading widely in the newspaper	.005	.05	.16	.002
Expected education	.003	.03	.20	.001
Watching drama and sports	.002	.04	.10	.001
Like school	.001	.04	.16	.002
Interest in literature	.001	.003	.20	.0000
Block V–Word Knowledge	.20	.53	.68	.20
Total unique variance .25				
Total joint variance .29				

or professional families. Over half of the good readers (55.6 percent) intend to go into the professions as opposed to 27.1 percent of the poor readers. The good readers tend to aspire beyond their parents' occupation; the poor readers to aspire to their parents' occupation or to be unsure.

Table 24

Sex and Family Size of Low and High Scoring Readers
(Figures in Percentages)

	Population I		Population II	
	Low n=1097	High n=1020	Low n=539	High n=674
Female	44.1	53.6	49.2	55.3
Number of Siblings				
0	3.3	4.3	3.2	4.7
1	14.6	23.8	14.2	19.5
2	18.4	28.6	18.9	27.4
3	18.3	21.3	15.7	21.6
>4	45.3	21.9	48.0	26.8
Birth order				
Only child	3.4	4.3	4.3	4.9
Oldest	22.5	32.1	24.5	29.5
Youngest	27.6	29.6	21.7	26.9
Middle	46.5	34.0	49.5	38.7

Table 25

Reading Habits of Low-Achieving and High-Achieving Students

	Population I		Population II	
	Low	High	Low	High
Percentage having fewer than 25 books in home	35.9	7.3	29.7	5.5
Percentage reading for pleasure 1 or fewer hours per week	48.0	15.8	44.8	11.7

These data allow for a number of interpretations. Together with the birth-order differences, they suggest a classic depiction of the age-old and classless importance given to the first-born and the consequent suppression of younger children: only the first child is the object of hope and support in his or her efforts to rise in the world. Another plausible interpretation is that somehow poor readers are early victims of the system of schooling; as they

Table 26

Television Watching of Low-Achieving and High-Achieving Students

	Low	High
Population I		
Percent watching less than 1 hour a day	21.9	16.6
Percent watching 1–3 hours a day	35.5	44.5
Percent watching 3–5 hours a day	24.6	27.2
Percent watching over 5 hours a day	17.9	9.5
Population II		
Percent watching no television	2.3	0.5
0–5 hours per week	19.1	10.1
5–10 hours per week	24.1	22.3
10–20 hours per week	25.0	38.0
Over 20 hours per week	29.5	29.3

Table 27

Selected Family Characteristics of Low-Achieving and High-Achieving Students

	Population I		Population II	
	Low	High	Low	High
Percent Reporting				
Fixed time for homework	59.5	44.2	43.7	36.2
Parents offer help with homework	43.5	26.4	27.8	7.5
Parents frequently check spelling	43.7	48.8	31.0	38.8
Never use a dictionary at home	15.9	1.6	6.1	1.2
Parents encourage reading	34.0	39.2	26.4	34.2
Parents interested in school	38.0	45.3	29.2	39.2

continue to fail to perform well their self-esteem sinks and so does their level of aspiration. A third interpretation would raise questions about whether occupational "levels" carry the same weight that they once had. In the affluent society, a truck driver may earn more money than a college professor. Our notions of the importance of schooling to the betterment of oneself financially are simply dated. The students are aware of this phenomenon and so schooling and reading may seem irrelevant to their aspirations. They aspire not to a job of higher status but to a job that pays. Why should they bother to do well on this kind of a test or in any academic task?

Table 28

Father's Occupation

	Low	High
Unknown	14.8	1.2
Unclassifiable	14.5	5.4
Laborer	3.2	1.4
Domestic and personal services	5.5	2.9
Farm, fishery, and forestry	2.6	2.7
Semiskilled	11.5	3.3
Skilled	24.2	20.2
White collar	5.3	12.2
Managerial, including stores and farms	7.6	24.8
Professional	6.0	26.0

Table 29

Expected Occupation

	Low	High
Unknown	25.6	13.2
Unclassifiable	11.7	15.3
Laborer	0.2	0.0
Domestic and personal services	7.1	1.1
Farm, fishery, forestry	1.7	1.1
Semiskilled	1.7	0.2
Skilled	11.9	5.1
White collar	11.3	3.9
Managerial, including stores and farms	1.9	4.5
Professional	27.1	55.6

Actual Performance on the Reading Test

Thus far, we have been looking at the students. It seems appropriate to look back at the test to see if certain aspects of performance on it say anything about the reading of students in the United States. The analysis that was performed is known as a Rasch Model analysis. It can provide item calibrations independent of the sample and person measurement independent of a specific set of items. As performed for Population II and IV, the analysis served three functions: to indicate items that behaved erratically, to relate the two tests through the use of anchor items, and to examine passage and item type difficulty.

Without going into the technicalities of the Rasch Model, one may say that it uses two parameters: one for items (easiness) and one for persons (abilities). It can then estimate the difficulty and discrimination of any one item for any one ability level, thus giving an index of the information provided by the item (the product of the probability of getting the item right and the probability of getting it wrong at any particular ability level). The item difficulties and information functions for Population II are given in Appendix B as is an explanation of how the Rasch technique was used to equate the tests for Populations II and IV. As a result of this analysis, certain items were found not to fit the Rasch Model primarily because they were answered by a higher percentage of less able students than of more able students. One may assume that there was something faulty in the item that caused this phenomenon. The items are listed in Table 30.

Some of the items may in themselves be faulty with unintentional ambiguities; some may be difficult because of the difficulty of the passage, and some may be difficult because they represent a type of question unfamiliar to the students. One can only guess which of the three sources of difficulty operates in a given item. I suspect that item IV–C24 is difficult in part because none of the options is ever paralleled in the passage; one must make a series of inferences. IV–C23, on the other hand, has a clear reference in the passage, but it may be that students choose the longest distractor. IV–D24 again asks for an inference based on two phrases: "low-priced Swiss watches" supports C; "the most common in modern use" supports B. One could argue either as support of one's choice. A student must use some mathematics to answer IV–D28 or II–D12 correctly, and must be able to count based on a confusing stem (third or third after the first?) to answer IV–C12. On the other hand, it is difficult to say why students in Population II failed to score as predicted on II–C6 or II–C12 except that both treat "common" metaphors which are actually not common to the students.

Beyond the examination of particular items, the Rasch Model enables one to examine the performance of students on passages and on item types. Of particular interest are passages that appear to be abnormally difficult or give

Table 30

Questions on the Reading Tests That Did Not Fit the Rasch Model

Population II	
Section and Item Number	Question
C6	In saying that Ernenek's igloo was "at the top of the world," . . .
C12	Paracutin is now . . .
C17	Deductive reasoning assumes the accuracy of . . .
C18	A central idea of the preceding article is that . . .
C20	Which of the four paragraphs is primarily concerned with synthesis?
C22	The process of making paper was first discovered by . . .
C26	The person who wrote this story was trying to . . .
D11	The relation between the first and second paragraphs . . .
D12	Judging from the passage, how much does a camel weigh?
D15	When the travelers were confronted by the city walls they appeared . . .
D23	The author's purpose in this passage is primarily to have us . . .
D25	What is the writer's attitude about making shoes of plastic?

Population IV	
Section and Item Number	Question
C6	Which of the four paragraphs is primarily concerned with synthesis?
C12	Which sentence in the paragraph (after the first) introduces . . .
C13	What support does the author provide for the position he is taking?
C20	The word "gratis" in line 7 means most nearly . . .
C23	Why might a charitable contribution from a business concern be . . .
C24	On what grounds would the fee of a concert violinist . . .
D19	The author's purpose in this passage is primarily to present . . .
D24	Which of the following types of escapements is probably most . . .
D28	In a compound pendulum, the length of the brass rods is about . . .

the researcher less information than might be expected. The tables on the passages also appear in Appendix B, and a graphic representation of the tables appears in Figures 6 and 7. Clearly II-C-Passage 3 is much more difficult for junior high-school students than the others in its section, and II-D-Passage 6 gives less information in part because it is more difficult than the others in its group. (The passages appear in full in Appendix A.) The first of these passages is abstract and uses complex diction, syntax, and paragraph structure. Although it gives valuable information about high-performing students, it is quite difficult for the average and below average.

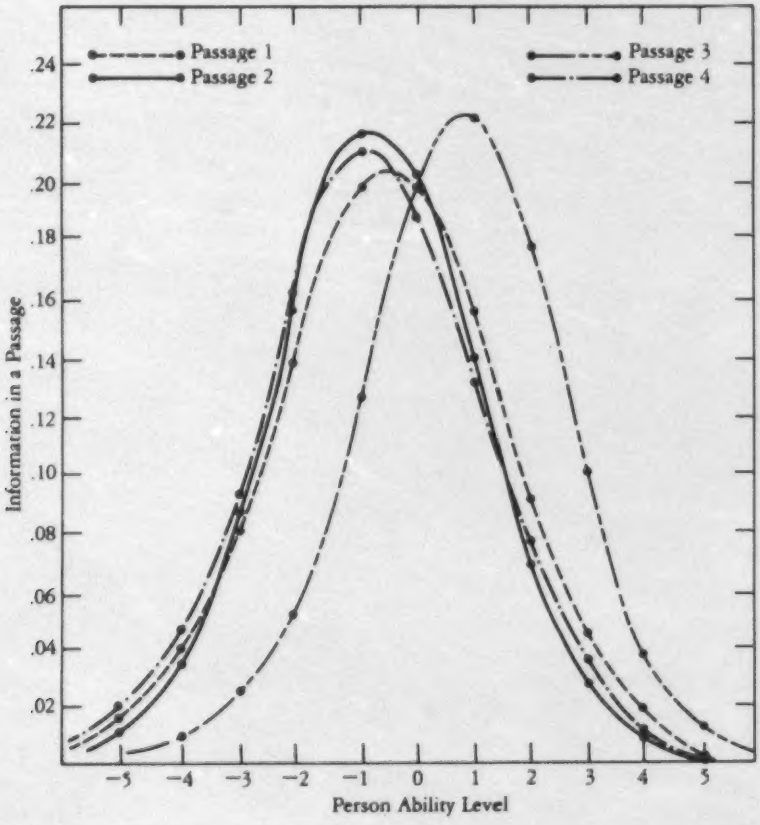


Figure 6. Mean on Information Function for Passages 1-4 on Section C, Reading Test, Population II.

One suspects that few junior high-school students have been exposed to this type of prose, the prose of the more serious textbook. The second passage is difficult in a different way; it uses a great many numbers and requires a fair amount of figuring. Again this is a kind of prose to which few students of this age are exposed. One might argue that the two passages are "beyond" the students' level of development, but development seems inextricably linked to exposure, so that by not having had opportunity to read these kinds of prose students are deprived the chance to learn to read them with comprehension.

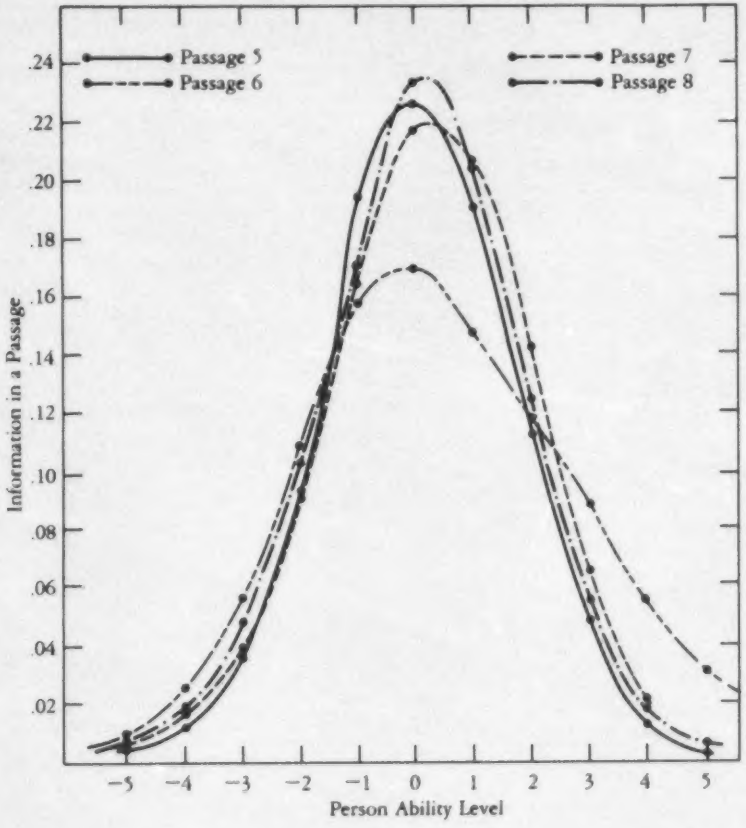


Figure 7. Mean on Information Function for Passages 5–8 on Section C, Reading Test, Population II.

The analysis of passages for Population IV yields much less striking information save that the test gets increasingly difficult so that one might infer that it was somewhat speeded (see Appendix B).

A second way of dividing the questions is by item type. There are four kinds. One asks the student to find specific information in the text:

> The process of making paper was first discovered by
> A. an American
> B. the French
> C. the Chinese
> D. Louis Robert

One asks for the meaning of the whole passage or large segments:

> A central idea of the preceding article is that
> A. deductive methods are hard to apply
> B. science and logic are opposed
> C. facts and opinions are about the same thing
> D. scientific and authoritarian methods may complement each other

One asks for inferences beyond the information given in the text:

> We may conclude that, after Robert's invention, paper became
> A. cheaper
> B. more valuable
> C. stronger
> D. rarer

And one asks for analysis of the organization or style of the passage:

> Which of the four paragraphs is primarily concerned with comparison?
> A. 1st
> B. 2nd
> C. 3rd
> D. 4th

The Rasch Model enables one to compare the difficulties for each set of items for each population and the projected difficulty of the set for the other population (Table 31). Thus, main idea items were relatively easy for Population II and very easy for Population IV. If the Population II students had taken the Population IV test the items would have shown much higher difficulty. What is noteworthy about this analysis is the inordinate difficulty of the rhetoric items for Population II (.837); in fact they show more difficulty than the main idea items would have shown had those students taken the Population IV test (.780). If one looks at this item type for Population IV, it falls within an acceptable range of difficulty. One can draw from this finding the inference that matters of rhetoric are part of the high-school curriculum but not of the junior-high curriculum. Yet this type of item is frequently found in tests at the junior high-school level. As is the case of abstract prose, these students seem not to be given the chance to learn a skill.

Achievement in Literature

Much of the analysis of achievement in literature has been reported in the international report (Purves, 1973), but it may be useful to reprint the regression analyses in this volume and to offer some comment. Three analyses were performed; one for Population II and two for Population IV, one with achievement as a criterion and one with interest as a criterion. The blocks in the achievement analyses were similar to those for reading save that the Reading Comprehension Score was included as Block VI.

For the junior high-school students, home background and sex strongly affected achievement; girls did better than boys (Table 32). Other student characteristics that had a positive effect were the amount and type of reading

Table 31

Mean and Standard Deviation of Item Difficulties Based on Item Classification

Population II				
Scale	Main Idea	Specifics	Inference	Rhetoric
Population II				
Mean	−.158	−.249	.269	.837
Standard deviation	.742	.917	1.682	.905
Scaled for Population IV				
Mean	−1.097	−1.513	−.982	−.399
Standard deviation	.763	.942	1.729	.931
Number of items	9	31	5	7

Population IV				
Scale	Main Idea	Specifics	Inference	Rhetoric
Population IV				
Mean	−.456	.035	.268	.101
Standard deviation	.549	.851	1.232	.796
Scaled for Population II				
Mean	.780	1.258	1.485	1.323
Standard deviation	.534	.828	1.199	.774
Number of items	9	27	8	10

for pleasure done by the students. Movie-watching had a negative effect, but watching drama on television had a positive one. The students whose teachers demanded memorization performed poorly, but textbooks, writing about literature, and devoting time to literature accompanied high performance. Memorization, then, is the only clue to what might strongly impede achievement, although it might be argued that teachers with poor students use memorization as device of last resort.

For the high-school students, again sex and home background were the most important variables, and suggest that achievement in literature is usually stereotyped (Table 33). In the main IEA study, a comparison of science and literature achievement scores hinted unmistakably that science is a male province and literature a female one. Clearly sexual stereotyping is a force behind this finding. Good readers of literature tend to read and tend to study literature more than poor ones. They are also perceived by their teachers as serious students of literature.

When interest is used as a criterion, high-performing students appear to have all the earmarks of interest and have easy access to books in the home and encouragement of interest in things of the mind (Table 34). They also appear to be busy students with lots of homework, but their teachers require fewer critical essays than do the teachers of less interested students. It would appear that interest in literature is *sui generis*; it derives from a home where it can be fostered and it appears to be related to a broader set of cultural interests.

Liking and Achievement

One of the questions that has often been asked is whether liking a selection is related to achievement or understanding (Squires, 1964). The students were asked to rate each story they read on a scale of 1 to 6 (from "one of the worst stories I have ever read" to "one of the best stories I have ever read"). For the United States students the percent rating a selection on the positive side and the strength of that liking (on a range of 1–3) were as in Table 35. "The Sea" was clearly the least liked selection and the others quite popular, with "The Use of Force" most intensely liked by junior high-school students. Because there was a somewhat greater spread of liking and achievement for junior high-school students, correlations were undertaken for them (Table 36). One can infer that liking a selection is indeed related to achievement and to a general interest and involvement, but the correlations are not startlingly high. In order to probe the effect of liking a selection further, one must turn to the response preference measure (see chapter 4).

Table 32

Multiple Regression—Literature Achievement
Population II

Block	Variable	Multiple Correlation	Increment to R^2	Regression Coefficient	Simple Correlation with Criterion	b^2/c
I	Home background	.32	.10	.25	.32	.06
	Sex	.39	.05	.22	.22	.05
	Reading resources in home[1]	.42	.03	.17	.26	.03
	No. of siblings	.43	.01	−.09	−.12	.01
II	Type of program	.46	.02	.16	.25	.02
	Type of school	.46	.001	.03	.08	.001
III	Recitation from memory	.47	.02	−.14	−.17	.02
	Hours of homework per week (total)	.49	.01	.11	.24	.01
	Grade	.50	.01	.10	.20	.01
	Influence of textbooks on methods	.51	.01	.07	.11	.003
	Proportion of time devoted to lit.	.52	.01	.08	.15	.01

	Frequency of writing about lit.	.52	.004	.07	.13	.004
	Sex of teacher	.52	.003	−.06	−.04	.002
	Public library near school	.53	.004	.06	.09	.003
	Hours of homework (lit.)	.53	.002	−.06	.07	.003
	Size of literature class	.53	.002	.05	.07	.002
	Percent of teachers who are male	.53	.001	−.04	−.07	.001
	Age of teacher	.53	.001	.04	.07	.001
	Admission based on performance	.53	.001	.04	.12	.001
	Pupil-teacher ratio	.53	.001	−.03	−.06	.001
IV	Hours of reading for pleasure	.56	.03	.13	.33	.01
	Reading habits—Group I	.57	.02	.15	.27	.02
	Movie attendance	.59	.01	−.12	−.14	.01
	Newspaper habits	.59	.01	.10	.21	.01
	Watch dramatic shows on TV	.60	.01	.09	.19	.01
	Reading habits—Group II	.60	.01	−.09	.10	.01
	Expected education	.61	.005	.09	.21	.01
	Hours of TV and radio	.61	.005	.07	.08	.005
	Read about sports	.61	.003	−.07	−.17	.003

Table 32 (Continued)

Block	Variable	Multiple Correlation	Increment to R^2	Regression Coefficient	Simple Correlation with Criterion	b^2/c
V	Word knowledge	.69	.10	.38	.57	.10
VI	Reading comprehension	.78	.14	.58	.74	.14
	Total unique variance .18					
	Total joint variance .44					

1. Removed from equation in Block VI.

Performance on Literary Critical Questions

Since the reading data showed an important effect of item type, it was thought worth seeing if the same were true of the literature test. The items had been divided into comprehension and interpretation items, but for "The Sea" there were among those interpretation items some dealing with formal matters, particularly imagery and point-of-view. In order to see whether these items or in fact either of the larger groups of items proved particularly difficult, an analysis of the poorest performing students (less than one standard deviation below the mean) was performed (Table 37). Clearly the interpretation items in general were somewhat more difficult for these students than were the comprehensive items; the form questions on "The Sea" were even more difficult. Again one may well suspect lack of exposure to a type of question such as the following:

> There are many colors in this story: the boy is described as red and yellow, and the sea as green, blue, and violet. Which of the following comments about all the colors is most vivid in the context of the story as a whole?
>
> A. The colors help us understand that the sea represents everything that the boy is not but would like to be
> B. The colors help show us how the sea appears to be two different things for the boy and for his parents
> C. The colors help us see that the person telling the story does not like the sea as much as the boy does
> D. The colors help us see that the boy cannot understand the difference between what happens to him and what happens to the people on the shore

Opportunity to learn is not as clearly apparent as a factor in literature achievement as it is in reading, but it appears to exist nonetheless.

Variety of Responses and Achievement

One of the assumptions of literary critics and educators in literature is that the better reader is the one who adopts critical style or approach in accordance with text. Northrop Frye writes of the "well-tempered critic" who can "specialize . . . in Chaucer and still be able to modulate to the key of Dostoevski or Plato, to understand that literature is a coherent order of words and not what Pope calls a wild heap of wit" (Frye, 1963). One might infer that such a critic can read with higher comprehension than a monotonic reader. To test this assumption, one can use the response preference measure, which each student answered three times, each time choosing five questions. If "well-tempered," a student might choose fifteen different questions; if "ill-tempered" five questions. One can compare the number of different questions

Table 33

Multiple Regression—Literature Achievement
Population IV

Block	Variable	Multiple Correlation	Increment to R^2	Regression Coefficient	Simple Correlation with Criterion	b^2/c
I	Home background	.27	.07	.20	.27	.04
	Sex	.35	.05	.19	.23	.04
	Reading resources in in home[1]	.38	.02	.15	.24	.02
	Age	.40	.02	−.14	−.22	.02
II	Type of program	.44	.03	.20	.29	.03
	Type of school	.44	.001	.03	.02	.001
III	Proportion of time devoted to lit.	.47	.02	.15	.26	.02
	Teacher's impression of students	.47	.01	.10	.12	.01
	Enrollment at Population IV	.48	.01	.13	.11	.01
	Amenities in school	.49	.01	−.13	−.004	.01
	Hours spent marking papers	.49	.004	−.09	−.06	.01

	Teacher's full-time schooling	.49	.004	.07	.08	.005
	Public library near school	.50	.002	.07	−.03	.002
	Sex of teacher	.50	.001	.04	−.01	.001
	Grade	.50	.001	.03	.05	.001
IV	Reading habits	.52	.02	.12	.28	.01
	Newspaper habits—Group II	.53	.01	−.14	−.02	.02
	Interest in lit.	.54	.01	.11	.24	.01
	Hours of reading for pleasure	.55	.01	.09	.25	.01
	Expected occupation	.55	.003	.05	.20	.002
	Parental encouragement to visit museums	.55	.002	−.04	.07	.001
	Like school	.55	.001	−.04	.13	.001
	Expected education	.55	.001	.04	.18	.001
	Newspaper habits—Group I	.55	.001	.03	.18	.001
V	Word knowledge	.63	.08	.35	.50	.08
VI	Reading comprehension	.77	.14	.55	.68	.14

Total unique variance .19
Total joint variance .34

1. Removed from equation in Block VI.

Table 34

Multiple Regression—Literature Interest
Population IV

Block	Variable	Multiple Correlation	Increment to R^2	Regression Coefficient	Simple Correlation with Criterion	b^2/c
I	Achievement in literature	.24	.06	.24	.24	.06
II	Sex of student	.27	.02	.14	.18	.02
III	Dictionary in home	.35	.05	.19	.24	.04
	Magazines in home	.36	.01	.08	.15	.01
	Books in home	.37	.004	.07	.16	.004
IV	Parental encouragement to visit museums	.39	.01	.12	.19	.01
	Parental interest in school[1]	.39	.002	.05	.16	.002
V	Like school	.41	.02	.15	.24	.02
VI	Amenities in school	.43	.01	−.10	−.10	.01
	Critical essays required	.43	.003	−.06	−.06	.003
	Hours of homework per week	.43	.002	.05	.20	.002

	Hours spent marking papers	.43	.001	.04	−.01	.001
VII	Hours of reading for pleasure	.52	.09	.27	.44	.06
	Transfer	.57	.05	.22	.35	.04
	Reading habits–					
	Group I	.59	.02	.13	.40	.01
	Group II	.60	.01	.12	.30	.01
	Total unique variance .15					
	Total joint variance .21					

1. Removed from equation in Block VII.

Table 35

Students' Liking of the Selections

	Population II		Population IV	
	Percent Liking	Intensity	Percent Liking	Intensity
"The Use of Force"	88	1.9	87	1.8
"I See You Never"	83	1.7	85	1.7
"The Man by the Fountain"	81	1.8	89	1.8
"The Sea"	69	1.8	73	1.8

of high-scoring and low-scoring students. This analysis was performed with the high-school students comparing the number of questions selected by those scoring more than one standard deviation above the mean with that selected by those scoring less than one standard deviation below the mean (Figures 8, 9, 10). Separate figures appear from the groups taking each of the rotated stories.

Evidentially, the assumption cannot be supported from these data. Higher-scoring students tend to choose nine or fewer different responses; lower-scoring students ten or more. Whether the higher-scoring students are

Table 36

Correlations of Degree of Liking and Other Variables
Population II

	Achievement	Transfer	Interest
"The Sea" (3040)	.14	.16	.17
"The Use of Force" (988)	.19	.11	.09[1]
"I See You Never" (1064)	.12	.10	.19
"The Man by the Fountain" (1007)	.19	.15	.15

1. significance .002; .001

Table 37

Performance of Low-Scoring Students in Literature
Population II

	Mean Percentage of Items Correct		
	Comprehension	Interpretation	Form
"The Sea"	30	27	24
"The Use of Force"	29	26	-
"I See You Never"	29	28	-
"The Man by the Fountain"	30	26	-

so because they have a single-minded view of response and criticism or whether the lower-scoring students are selecting random responses we cannot say, yet the assumption of the superiority of the flexible responder must be seriously challenged.

Summary

From these analyses of students' performances, particularly on the reading tests, we notice one recurring phenomenon—opportunity to learn. Students who do not perform well appear to come from environments where language growth may be hampered because of large families in which the

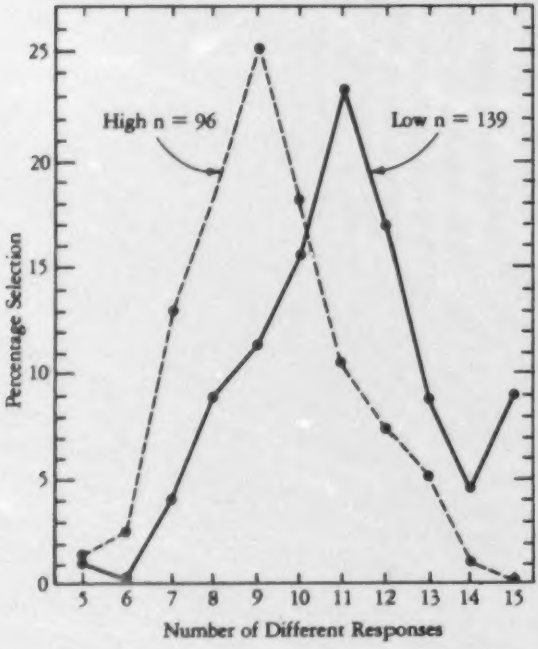


Figure 8. Variety of Responses Selected—Population IV: "The Use of Force."

individual child gets less attention and has less access to books and magazines. It would also appear that students who seem not to have had exposure in school to certain kinds of material or to certain kinds of question about what they read do not perform well.

The phenomenon of "opportunity to learn" has occurred in other IEA studies, notably mathematics and science, but it has not been explored with respect to reading. It is a difficult phenomenon to define, in part because of the variety of real-life experiences a reader may have had or the variety of prior reading a reader may have accomplished, all of which may account for the reader's comprehension of a particular passage. Nonetheless, this study appears to have isolated certain aspects of the phenomenon—some in the home background of the student, some in the curriculum of the school.

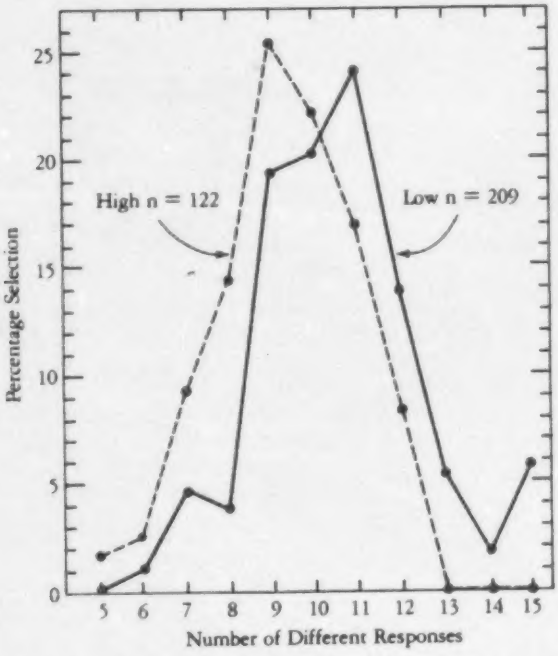


Figure 9. Variety of Responses Selected—Population IV: "I See You Never."

The early reports of the IEA studies (Purves, 1973; Thorndike, 1973) referred to the relationship of home background to school, and suggested that home background rather than school affected achievement. I would suggest that such was a wrong interpretation. Opportunity to learn appears as a phenomenon occurring in home and in school; it may occur in rich and poor, but its hallmarks are the same. If only socio-economic status were the cause of differences in achievement, other social variables would emerge. But the cluster that does emerge pinpoints the presence or absence of various opportunities to learn—opportunities that occur in the home or at school. It seems much more profitable to explore these lost opportunities and seek ways to prevent their loss.

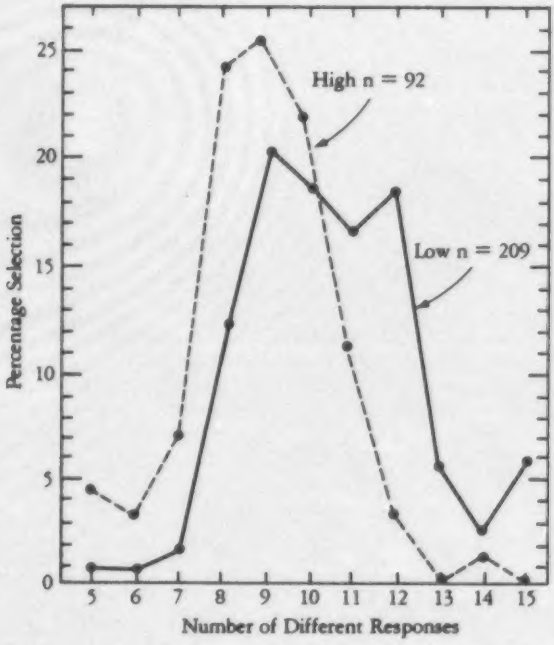


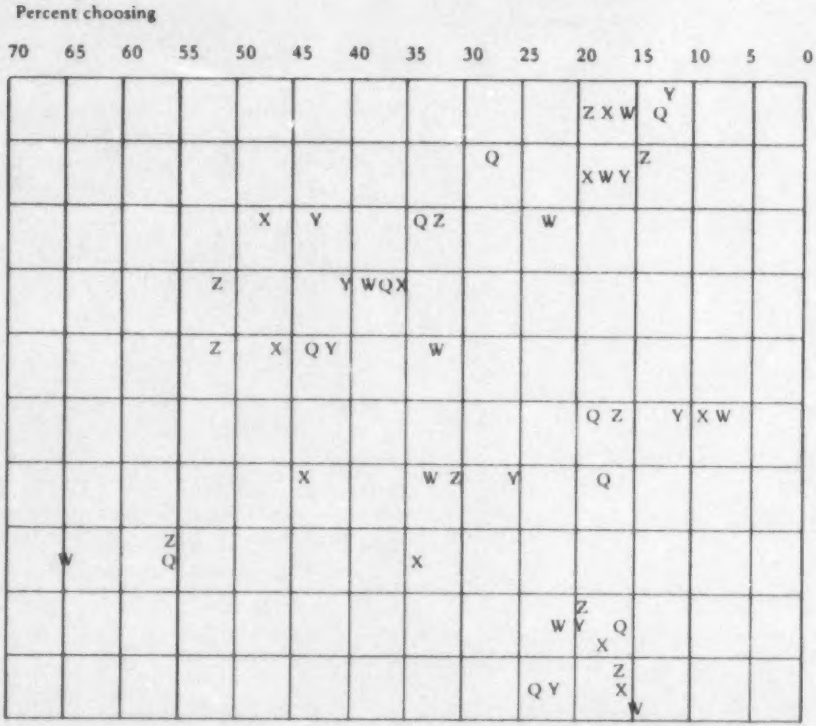
Figure 10. Variety of Responses Selected—Population IV: "The Man by the Fountain."

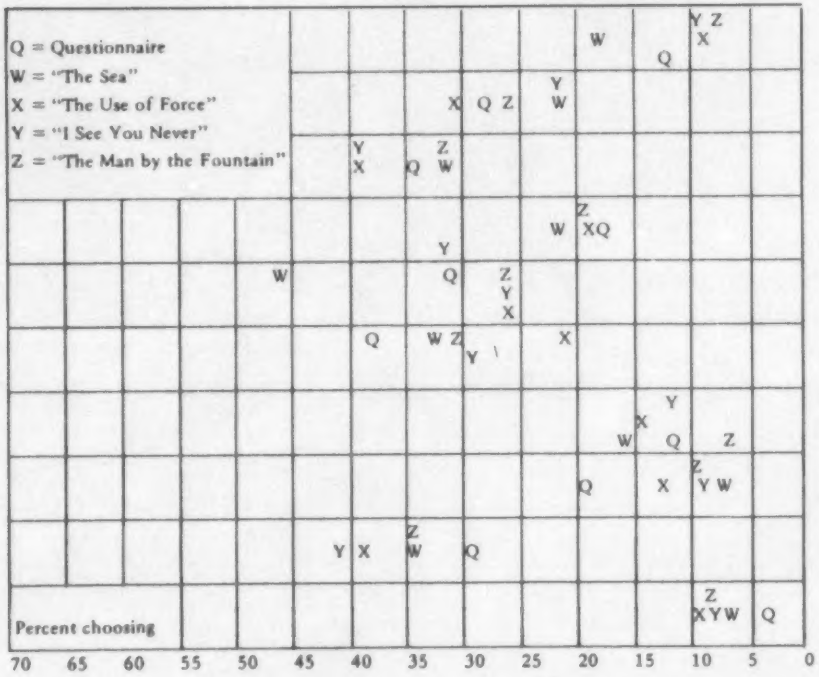
4 Responses to Literature

As was pointed out in chapter 1, a major part of the IEA literature study sought to examine the responses of students to the selections they read. The primary means for conducting the examination was a response preference measure which asked the students to select five from a list of twenty questions which were based on an earlier content analysis (Purves and Rippere, 1968; Purves, 1973). The first result was what might be called a general response profile (Figures 11 and 12) for the Population II and IV students. These response profiles show that the Population II students tend to be more diverse in their choices than the Population IV students, varying more from selection to selection, but that in general, the two groups tend to prefer the same questions and reject the same questions. Both groups tend to be concerned with interpreting the text and with their emotional responses to it.

Consistency of Response Patterns

Among the many possible ways to examine the patterns of response preferences of students, one seeks to examine their persistence across selections. We have already seen something of this persistence in the number of different responses selected. In a more detailed fashion, we can see which of the twenty responses are persistent. To accomplish this, one may make comparisons of pairs of selections (e.g., one of the rotated stories and the common story, "The Sea"), and develop an index of persistence of a response across selections. Such an index is based on a Venn diagram. Choosing the response "Does anything in the story have a hidden meaning?" and the stories "The Sea" and "The Man by the Fountain" for Population IV yields an index of .54 as represented in Figure 13. To derive the index, one uses as a numerator the percent choosing the selection on both (the shaded area or 41%) and as a denominator the percent outside the shaded area (55% + 61%-41% or 75%) for an index of .54. Thus indices of persistence can be compared and can be read as varying from 0 to 1. On the basis of experience with such indices .25 appears to be the dividing line between strong and dubious relationships (an index of .54 is one of the highest encountered in this study).


Percent choosing
70 65 60 55 50 45 40 35 30 25 20 15 10 5 0
Is the story about important things? Is it a trivial or a serious work?
Is the story well written?
Does the story succeed in getting me involved in the situation?
Is there a lesson to be learned from the story?
Does the story tell me anything about people or ideas in general?
What does the story tell us about people I know?
How can we explain the way people behave in the story?
Is there anything in the story that has a hidden meaning?
Is there any one part of the story that explains the whole?
When was the story written? What is the historical background of the story and the writer?


Q = Questionnaire
W = "The Sea"
X = "The Use of Force"
Y = "I See You Never"
Z = "The Man by the Fountain"
Percent choosing
70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

What type of story is this? Is it like any other story I know?

What is the writer's opinion of or attitude toward the people in the story?

How does the story build up? How is it organized?

How is the way of telling the story related to what it is about?

What happens in the story?

What metaphors (or comparisons), images (or references to things outside the story) or other devices are used in the story?

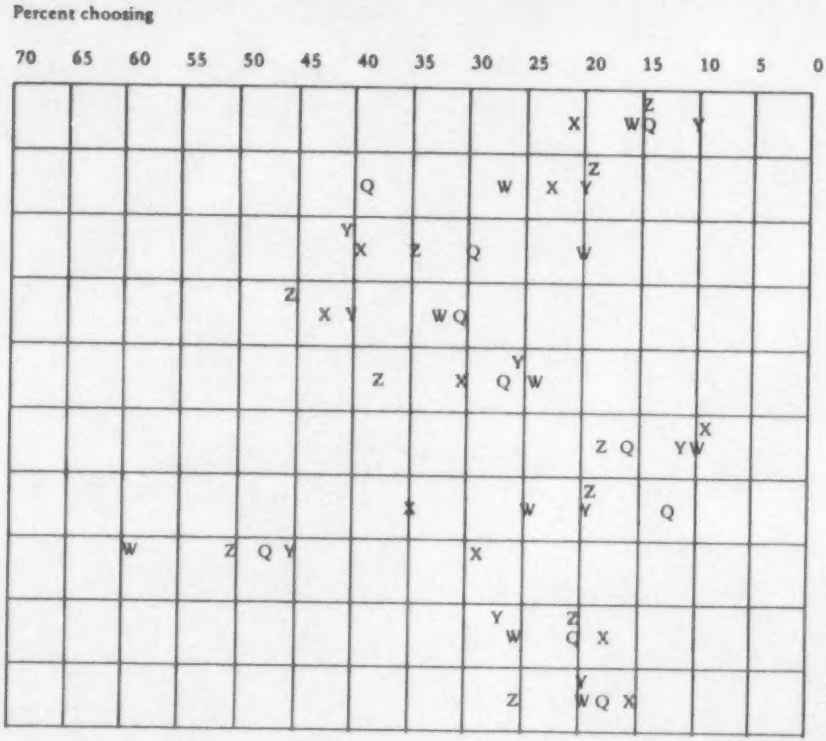
Has the writer used words or sentences differently from the way people usually write?

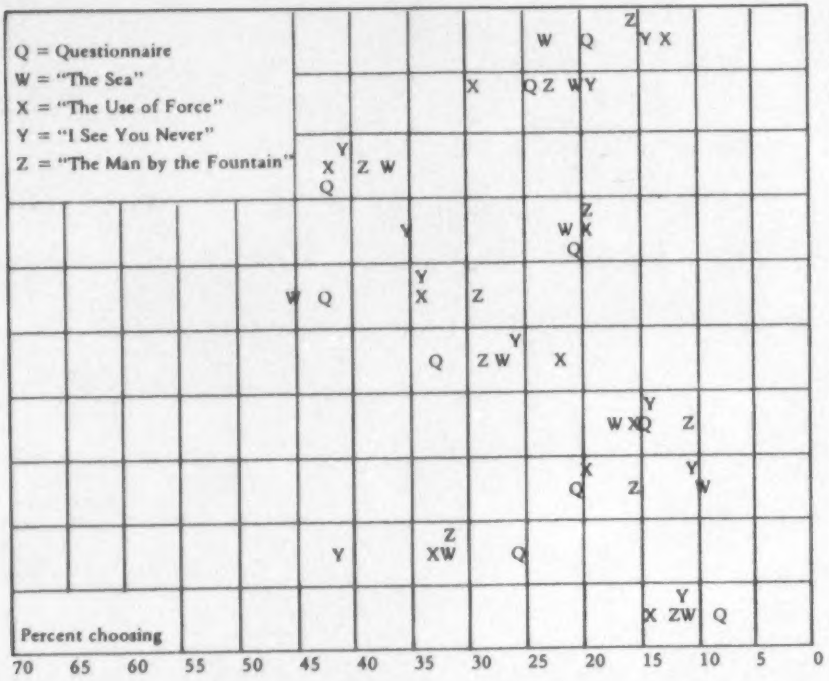
Are any of the characters in the story like people I know?

What emotions does the story arouse in me?

Is this a proper subject for a story?

Figure 11. Pattern of Response—Population II.


Percent choosing
70 65 60 55 50 45 40 35 30 25 20 15 10 5 0
Is the story about important things? Is it a trivial or a serious work?
Is the story well written?
Does the story succeed in getting me involved in the situation?
Is there a lesson to be learned from the story?
Does the story tell me anything about people or ideas in general?
What does the story tell us about people I know?
How can we explain the way people behave in the story?
Is there anything in the story that has a hidden meaning?
Is there any one part of the story that explains the whole?
When was the story written? What is the historical background of the story and the writer?


Q = Questionnaire
W = "The Sea"
X = "The Use of Force"
Y = "I See You Never"
Z = "The Man by the Fountain"
Percent choosing
70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

What type of story is this? Is it like any other story I know?

What is the writer's opinion of or attitude toward the people in the story?

How does the story build up? How is it organized?

How is the way of telling the story related to what it is about?

What happens in the story?

What metaphors (or comparisons), images (or references to things outside the story) or other devices are used in the story?

Has the writer used words or sentences differently from the way people usually write?

Are any of the characters in the story like people I know?

What emotions does the story arouse in me?

Is this a proper subject for a story?

Figure 12. Pattern of Response—Population IV.

The examination of persistence of responses was performed for Population IV on the assumption that a pattern of response would be more stable at this age than at the earlier one (see Purves, 1973). Tables 38 through 41 give indices of persistence of responses that were significantly chosen (by more than 30 percent of the population on any one selection). Five responses persist across all selections, which is to say that readers tend to choose them regardless of what story they have read. Does anything in the story have a hidden meaning? has a mean index of .44; Is there a lesson to be learned from the story? a mean index of .36; What does the story tell me about people or ideas in general? a mean index of .35; How is the story organized? a mean index of .34; and What emotions does the story arouse in me? a mean index of .32.

The first three of these questions form a moralistic symbolic approach to theme which appears to persist no matter what the selection, although "The Use of Force" draws fewer questions about symbol than do the other stories on the questionnaire; curious, for the story uses as much Freudian symbolism as do the others although it is less obvious. The question of organization and that of the emotions aroused by the story appear to have little obvious connection with each other or with the other three. Whether these questions are chosen by the same students we shall see later. At this point one can say, however, that a good number of students respond the same way no matter what they read. Why they do so remains a matter of conjecture. Some, like Holland (1974), would argue that they do so because they project their egos onto what they read. Others would argue that it is because they have been

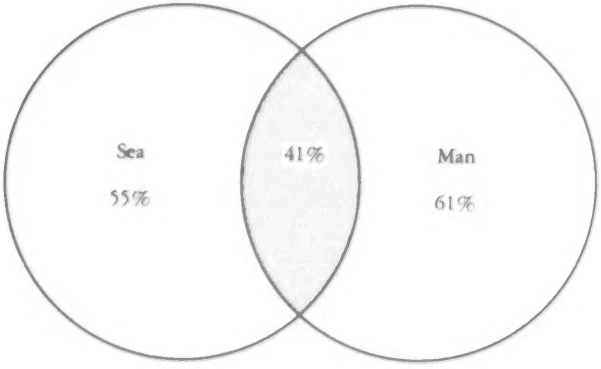


Figure 13. Comparison of Persistence of Response to "Does anything in the story have a hidden meaning?" in "The Sea" and "The Man by the Fountain."

Table 38

Persistence of Responses: Population IV
"The Use of Force"

	Percent Selecting Response			Use-Sea Index	Use-Question Index
	Use of Force	The Sea	Questionnaire		
Hidden Meaning	33	63	53	.35	.34
People in General	45	31	42	.31	.38
Explain Behavior	43	31	17	.32	.20
Organization	38	32	32	.32	.32
Lesson	36	34	37	.32	.28
Success in Involving	46	24	33	.32	.36
Emotions Aroused	30	32	27	.30	.33
Writer's Attitude	30	20	25	.30	.25

Table 39

Persistence of Responses: Population IV
"I See You Never"

	Percent Selecting Response			I See-Sea Index	I See-Question Index
	I See You Never	The Sea	Questionnaire		
Hidden Meaning	46	65	56	.44	.44
Form-Content	31	22	16	.20	.12
People in General	40	32	43	.33	.34
Organization	38	28	35	.38	.35
Lesson	39	38	35	.40	.37
Success in Involving	42	21	30	.29	.33
Emotions Aroused	42	34	26	.38	.31

Table 40

Persistence of Responses: Population IV
"The Man by the Fountain"

	Percent Selecting Response			Man-Sea Index	Man-Question Index
	Man by the Fountain	The Sea	Questionnaire		
Hidden Meaning	55	61	51	.54	.51
People in General	50	33	41	.36	.42
Explain Behavior	30	29	15	.26	.22
Organization	30	32	33	.35	.37
Lesson	49	40	35	.44	.38
Success in Involving	32	21	31	.23	.29
Emotions Aroused	35	36	27	.34	.29

Table 41

Persistence of Responses: Population IV
"The Sea"

	Percent Selecting Response		
	The Sea	Questionnaire	Sea-Question Index
Metaphors, Images	33	37	.32
Hidden Meaning	65	55	.46
What Happens	46	32	.32
People in General	33	43	.33
Explain Behavior	32	17	.17
Organization	32	34	.29
Lesson	38	37	.32
Emotions Aroused	35	28	.26

taught that certain responses and only certain responses are appropriate. I think the evidence tends to support the latter argument more than the former, if only because the questions were stated generally and not in terms of a specific symbol and also because the students chose the same responses on a questionnaire, thus indicating a general critical approach rather than a specific psychological one.

That some other responses were peculiar to stories also supports the second argument. The form-content response appears dominant only to "I See You Never," and the response evaluating "The Use of Force" and "The Man by the Fountain" in terms of its success in involving the reader also appears dominant, although it is chosen on the questionnaire. The response How can we explain the characters' behavior? appears to be chosen after students read a selection, but they do not consider it important in the abstract.

A number of students, then, persist in their responses, no matter what they read. The next question is whether they are choosing a pattern of responses, whether the same students are choosing the same questions. To answer this question, one can use the same technique as that used earlier to derive an index of association of responses (Tables 42–46). For "The Use of Force," there appears to be a pattern involving the responses dealing with people in general, explaining behavior, success in involving, and emotions aroused. This pattern might be described as one connecting an emotional

Table 42

Associated Responses: Population IV
"The Use of Force"

	HM	PG	EB	O	LL	SI	EA	AW
Hidden Meaning	33							
People in General	.24	45						
Explain Behavior	.22	.33	43					
Organization	.20	.24	.23	38				
Lesson to be Learned	.23	.27	.20	.12	36			
Success in Involving	.20	.28	.29	.25	.22	46		
Emotions Aroused	.18	.24	.27	.21	.17	.29	30	
Attitude of Writer	.15	.17	.20	.19	.20	.17	.15	30

Note: Numbers above the diagonal are percentages choosing response.

involvement with the characters to an attempt to understand their behavior. The other frequently chosen responses remain somewhat independent of each other and of this central cluster.

Ray Bradbury's "I See You Never" elicits a pattern connecting the emotional responses to each other and to the search for hidden meaning. Some students who are concerned with the hidden meaning and the story's success in involving them also selected the question concerning people in general, but they appear not to be the same as the first group. A third group is concerned with the hidden meaning and the lesson that might be drawn from the story. This symbolic moralistic pattern is much more pronounced in the responses to "The Man by the Fountain," where there are high indices connecting these two to each other and to the concern with what the story says about people in general. The same pattern recurs in response to the questionnaire, and to a lesser extent in response to "The Sea," although the question about people in general is not so strongly associated to the other two, and many of those who ask about the hidden meaning also ask about what happens in the story.

If one surveys all five tables, then, one finds that there is a fairly persistent pattern of response linking the search for a hidden meaning to a concern with generalized theme (mean .27), and to the lesson to be learned (mean .31), and those two to each other (mean .27). A sizeable group of American

Table 43

Associated Responses: Population IV
"I See You Never"

	HM	FC	PG	O	LL	SI	EA
Hidden Meaning	46						
Form-Content	.18	31					
People in General	.26	.15	40				
Organization	.22	.20	.16	38			
Lesson to be Learned	.31	.15	.25	.15	39		
Success in Involving	.28	.16	.28	.25	.25	42	
Emotions Aroused	.28	.20	.21	.23	.21	.35	42

Note: Numbers above the diagonal are percentages choosing response.

Table 44

Associated Responses: Population IV
"The Man by the Fountain"

	HM	PG	EB	O	LL	SI	ER
Hidden Meaning	55						
People in General	.32	50					
Explain Behavior	.23	.26	30				
Organization	.23	.18	.09	30			
Lesson to be Learned	.38	.37	.22	.17	49		
Success in Involving	.24	.19	.12	.24	.22	32	
Emotions Aroused	.23	.25	.17	.14	.23	.19	35

Note: Numbers above the diagonal are percentages choosing response.

Table 45

Associated Responses: Population IV
"The Sea"

	M	HM	WH	PG	EB	O	LL	EA
Metaphors	33							
Hidden Meaning	.21	65						
What Happens	.18	.34	46					
People in General	.18	.26	.13	33				
Explain Behavior	.14	.26	.20	.18	32			
Organization	.18	.21	.22	.12	.10	32		
Lesson to be Learned	.16	.33	.24	.22	.19	.11	38	
Emotions Aroused	.17	.25	.21	.17	.16	.18	.20	35

Note: Numbers above the diagonal are percentages choosing response.

high-school students chooses this symbolic, thematic, moralistic response. It would appear that they do so consistently across selections, and that this pattern of response is only partially modified by the particular selection the students read: if it is difficult like "The Sea," some may be concerned with surface meaning; if it is direct and emotional like "The Use of Force," some may be concerned with their emotional reaction. The selections do affect the responses of other students, however. "I See You Never" prompts a number to be concerned with the relation of form and content; "The Sea" prompts concern with metaphors; and "The Use of Force" prompts concern with the writer's attitude. A number of students are consistently concerned with the organization of a selection, but this response is not clearly related to any other. The moralistic interpretive pattern is the dominant pattern of American high-school students.

In order to see whether students using this pattern could be otherwise identified, we created an artificial score based on the number of times the three questions were selected. A student could select them from never to three times apiece for a score of from 0 to 9. This score was then correlated with selected predictors with the results as in Table 47. It would appear that high-achieving middle-class girls tend towards this pattern, but most especially that it is the pattern of students who score well on the achievement measure. In fact, over a third of the top-scoring students choose five or more of the questions. One can go further, then; the moralistic interpretive pattern is the dominant pattern of high-achieving American high-school students.

Table 46

Associated Responses: Population IV
Questionnaire

	M	HM	WH	PG	O	LL	SI
Metaphors	.37						
Hidden Meaning	.23	55					
What Happens	.13	.19	32				
People in General	.23	.29	.12	43			
Organization	.25	.22	.18	.17	34		
Lesson to be Learned	.14	.28	.19	.23	.13	37	
Success in Involving	.13	.21	.16	.21	.20	.17	32

Note: Numbers above the diagonal are percentages choosing response.

Predictors of Response Preference—Sex

In order to examine the internal characteristics of patterns of response of selected groups of students, the major variables selected were sex, socio-economic status, and scores on achievement, interest, transfer, and the degree of liking of the story. To perform this part of the analysis, the technique of multiple discriminant analysis was used. This technique seeks to maximize the distinction between groups (e.g., boys and girls) with respect to the cluster of variables, in this case the twenty response preference items. The process determines that cluster of items that are related to each other and also related to a group. In some cases, there may be more than one cluster, thus suggesting a two- or three-dimensional difference.

To pursue the example of sex differences at the Population II level the analysis offers the following functions all significant at the .0001 level, with an ability to place a student correctly about 65 percent of the time (Table 48; see also Appendix C). The reader should note that three separate analyses were performed for the groups taking each of the three rotated stories. If one scans Table 48 one sees a vague pattern: girls tend to concern themselves with hidden meaning, theme, organization, form's relation to content, the work's success in involving them, and to an uncertain extent with metaphor and content; they tend not to concern themselves with part-whole relationships, personal interpretation or identification, and possibly language, or the lesson to be learned. These appear to form an objective-subjective continuum, and the two groups would be arranged as in Figure 14. Why this difference should be remains a matter of interpretation. One might hypothesize that girls have begun to become acclimated to the critical world of

Table 47

Correlation of Interpretive Pattern Scores with Selected Variables
Population IV

Variable	Correlation	Significance
Sex	.06	.001
Father's occupation	.08	.001
Transfer	−.03	.03
Interest	.00	NS
Achievement	.19	.001

Table 48

Discriminant Functions for Sex
Population II

	Questionnaire	Sea	Use Force	See Never	Fountain
Part - Whole	−.22		−.25		
Tell about People				−.23	−.29
Metaphors	.29	−.24, .40			
Hidden Meaning	.22	.23			
Form-Content				.21	.36
Characters Like People		−.22	−.31		−.24
What Happens		.29		.23	
People or Ideas in General	.23			.21	.27
Language	−.24				−.21
Organization	.20	.29		.27	.20
Lesson to be Learned		−.23, −.21	−.25		
Historical Background	.25				
Success in Involving	.29, .28				
Emotions Aroused	.29				
Writer's Attitude	.22		−.20		

	Centroids		
	Use Force	See Never	Fountain
Boys	−.37	−.32	−.33
Girls	.33	.30	.30

secondary school literature study and boys have remained somewhat egocentric in their responses to what they read. One may, then, simply be witnessing a sex-difference in the movement of fourteen year olds toward a decentered reading of a text.

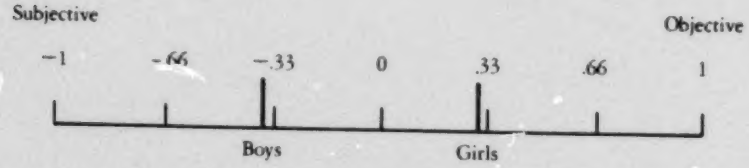


Figure 14. Discrimination of Response Pattern by Sex—Population II.

The reader may have noticed the lack of consistency of signs, for which there are two explanations. The analyses were performed separately for the groups of students taking each of the three rotated tests. Since discriminant analysis seeks to make the most of a distinction among groups, it looks for the clusters that achieve that distinction. Among those clusters might appear items that contain small differences in the proportion of the population choosing the item, but which do affect the cluster. On "The Sea" and the questionnaire, the small differences might shift a sign so that one is seeing the presence of a random effect. A more probable explanation lies in the fact that there are differences in pattern according to the story read and that these differences affect even the pattern on the common measures (an indication of the strong effect of situation on response pattern). A discriminant analysis for the international population showed this effect (chapter 1; and Purves, 1973). A second analysis of the two populations was performed and showed significant effects of the rotated story for Population II but not Population IV (Appendix C). The results indicate that students who read "The Man by the Fountain" tended to ask questions about the relationship of part to whole and of form to content and about the moral of the story more frequently on the questionnaire than did those who read the other two stories. After "The Sea" this group tended to ask more often about what happened and about its success in involving them and less often about theme, lesson, character motivation, and whether they could identify with the characters. This pattern is in part explicable by virtue of the fact that "The Man by the Fountain" is generally more didactic than the other stories and so could affect responses to the questionnaire and "The Sea," which has a more obscure moral (but no less important a one). "The Man by the Fountain" is also somewhat disjointed to a ninth-grade student and may generate more questions about how stories fit together. Regardless of the type of effect of the stories on responses, an effect exists, so that trends cited

in the subsequent analysis are conservative estimates. Only where the signs and weights clearly point to an effect across texts can one ascribe meaning to these analyses.

The remainder of this chapter will include only a summary with figures of the responses that suggest the poles; tables of the standard discriminant function weights may be found in Appendix C. To continue the discussion of sex difference in response preference, at the senior high-school level we find that girls tend to cluster around the following responses, metaphors, hidden meaning, people or ideas in general, and the success of the selection in involving them; they clearly avoid only one response, "What does the story tell me about people I know?" These responses again form something that might be called a critical-noncritical continuum and the two groups would appear as in Figure 15. One cannot determine whether we are continuing to

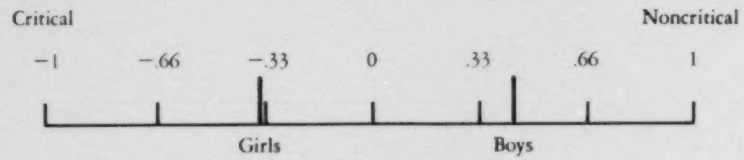


Figure 15. Discrimination of Response Pattern by Sex—Population IV.

see a phenomenon explainable by a developmental theory or whether we are observing the fact that just as girls score better on the cognitive measures in literature, so they are more apt to be in the critical-pedagogical mainstream. I would suspect the latter in part because the sexes are not differentiated on many of the array of "objective" responses, but on a selected group that characterizes a persistent and dominant pattern of response.

Socio-Economic Status

One may wonder whether socio-economic status (as represented by father's occupation) affects response as it does achievement. The discriminant analysis for the junior high-school students indicates that although there is a difference, a pattern is not clear. Students from homes of lower socio-economic status tend to be more concerned with the relation of form to content, with genre, and with whether the characters are like people they know. These responses taken together might indicate that these students have less of a grasp of the selection; they do not have a "way into" the story (the scattered appearance of items like the relationship of part to whole, historical appearance, whether the story is well written, and what it tells about people in the

reader's world) lends credence to this interpretation. For the Population IV students a complementary pattern occurs. The students on the lower socio-economic scale ask some of these same questions, but they quite clearly avoid asking critical questions about literary devices, theme, and (to a lesser extent) character motivation. One may establish a continuum from critical understanding to incapacity to relate to the story with results as in Figure 16.

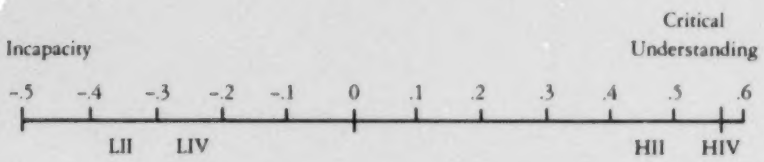


Figure 16. Responses according to Socio-Economic Status.

Clearly at Population II, the higher socio-economic group rejects the responses of incapacity but has not developed the responses of critical understanding that the senior high-school students have acquired.

Achievement

Two variables were used for achievement, score on "The Sea" and score on the rotated story, so that both a general pattern of response and one specific to a story could emerge. Perhaps not surprisingly, the general pattern resembles that of socio-economic status. Whichever standard of comprehension is used, students who achieve poorly (less than one standard deviation below the mean) select responses dealing with the genre and background of the story, with its connection to their lives, and to such matters as the relation of form and content, the language of the text, and whether it is well written. They reject questions of hidden meaning, character motivation, theme, organization, and emotional impact. Again, a continuum from incapacity or distance to criticism would seem to exist, and the students place themselves on it as in Figure 17 (which is not to scale). The achievement analysis produced a second function which separated the middle students from those at either end. This group tends to select the questions dealing with part-whole relationships, organization, and the surface of the work and to reject the thematic implications. Achievement, then, is accompanied by a pattern of response that goes into the meaning or significance of the work and deals with emotion and particular implications of the work. Without understanding, there are a series of responses that scratch at the surface of

the work as if the reader were trying to find a way in. Students who are in the middle seem to have found a way into the surface of the text but not to its large themes, issues, and implications. One sees a pattern of response that shifts with comprehension as if the better one understands a text, the further one is able to consider it.

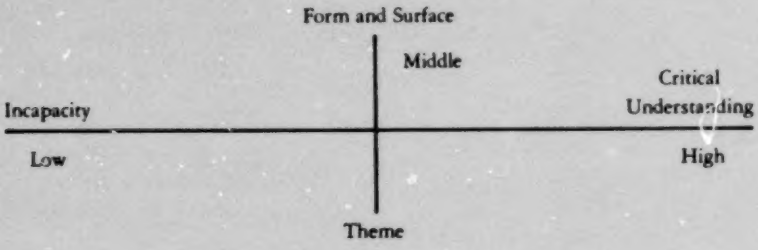


Figure 17. Responses according to Achievement.

If one looks at the interaction of achievement on "The Sea" and responses to that story, one finds that the general pattern prevails, in fact that the movement away from responses of incapacity is achieved by the middle group of performers (Function 2, Populations II and IV) so that incapacity is clearly the mark of the low group. Able students at both age groups are strongly concerned with the metaphors of the work and its theme. For junior high-school students, "The Use of Force" elicits questions of literal comprehension ("what happens") from the middle group and questions of whether it is a proper subject for a story from the low group. At the same age, high-achieving students are concerned with hidden meanings in "I See You Never" and "The Man by the Fountain" and with morals but not language in the latter story. For senior high-school students, "I See You Never" draws responses concerning organization and structure from the high-scoring students. There would seem, then, to be some specific effects of a particular story on the responses of students according to their understanding of the story, but these effects are less dramatic than the general depiction.

Transfer and Interest

Two of the variables that proved to be of some importance in the international study were the student scores on the questionnaire dealing with interest in literature and transfer or a sense of involvement in the literary experience. The questionnaire proved to be highly reliable, but its validity (beyond face validity) remained questionable. Although the regression anal-

sis for interest served to validate that questionnaire (see chapter 3), it seemed prudent to explore the responses of interested and uninterested students. If one scores the discriminant analysis of Population II, one finds one clear pattern (for only one of the three groups were there significant results). For Population IV, a minor pattern exists: students with high interest respond in terms of metaphors, character analysis, historical background, and point-of-view; they have apparently, a critical cast of mind. They tend, perhaps, to reject the questions about what the selection says about people I know and about whether the work is trivial or serious and to favor those about whether the selection is well written and about the emotional impact of the work. Interested students at the high-school level appear, then, to resemble those who are able readers, but with perhaps a broader spectrum of inquiry about the work. This pattern would tend to add to the validity of the interest questionnaire.

A much sharper pattern occurs with respect to transfer. For students in both populations whose scores are high on this measure, a significantly different pattern emerges from that of students whose scores are low. Included in the pattern are choice of responses relating the characters in the work to the reader's world, the emotional impact of the work, and the work's success in involving the reader. That it is not the same pattern as that of low achievers is demonstrated by the addition of metaphor and theme, suggesting that the students comprehend the work and have an intellectual as well as personal approach to it. As Figure 18 indicates, the younger students are

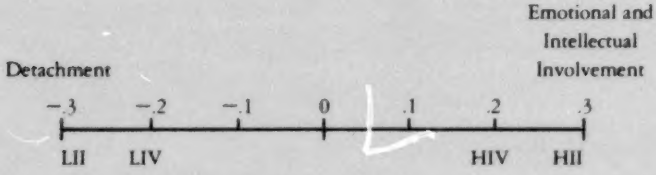


Figure 18. Responses according to Transfer Score.

somewhat more sharply discriminated than the older, but for the older students, the pattern of responses constituting the discrimination is clearer. From this analysis, one may well claim that the transfer measure is valid in that it can predict the responses of students to particular selections. The transfer score is related to interest score and the achievement score, yet it appears to be something distinct from both. What helps produce such a student remains somewhat a mystery.

Liking the Selection

The final discriminant analysis was performed using the score on the "like the story" scale. For the rotated story there were no significant results at Population II and only two at Population IV ("The Use of Force" was too well liked). Students who liked "I See You Never" rejected the question dealing with whether a part of the story was a key to the whole and preferred that dealing with the language of the work. Such a response would seem important, since the title of the story (a key phrase in the story) is an intriguing dialectal shift. On a second function, those who were indifferent to the story were concerned about whether it was trivial or serious. For the third story, "The Man by the Fountain," a somewhat different pattern emerges: students who like the story reject the question of whether it is well written but select those questions dealing with hidden meaning, theme, morals, point-of-view, and the story's success in involving them (these in response to the story itself). These students exhibit a pattern similar to that of high-achieving students but with the addition of emotional concern. Such a pattern suggests that while many students may understand a story and treat it as an intellectual puzzle, some students become involved emotionally in the experience and enjoy it.

For "The Sea," which had more sharply divided advocates and detractors, this distinction becomes clearer and, perhaps, more generalizable. At Population II, students who liked the story selected nearly all the items dealing with themselves and interpretation as well as the one dealing with the emotions aroused. The second function adds to that group two evaluative items, whether the work is trivial or serious and whether it succeeds in involving the reader (Figure 19). Students who dislike "The Sea" are low on the affective-interpretive scale; those who are neutral are about as high on it as those who like it but reject the evaluative component for one that is more analytical. In this instance liking and evaluating seem clearly related.

For the high-school students, students who liked "The Sea" selected the responses dealing with hidden meaning, theme, success in involving, emotions aroused, and to a less conclusive extent with morals, motivation, and content. They rejected three of the responses indicative of not being able to comprehend the story. This function again describes an affective-interpretive continuum (Figure 20). The second function, separating the indifferent students from the extremes is less susceptible to clear definition; those scoring high reject theme and appear to be somewhat less emotional, and a bit more evaluative. This might tentatively be labeled a continuum of detachment. Both those who like and those who dislike the story share an involved view of it, but are clearly separated on their ability to deal with those

emotions and the intellectual aspects of the story. Those who like a story, then, seem to share with those who understand it a disposition to grapple with its implications, but they add to that a disposition to deal with the emotional as well as the intellectual implications.

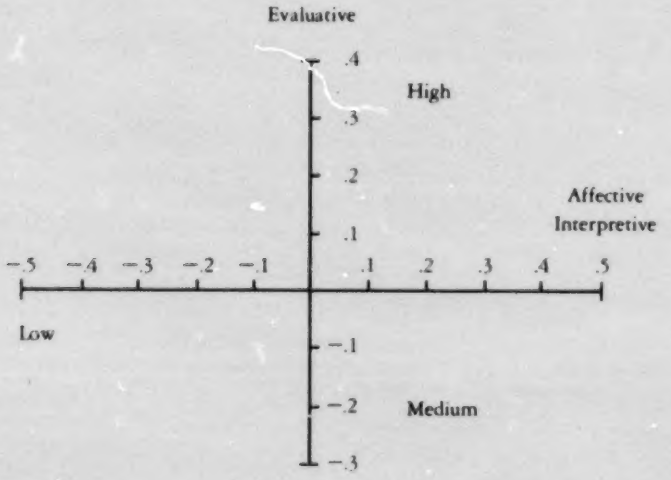


Figure 19. Responses according to Liking "The Sea"—Population II.

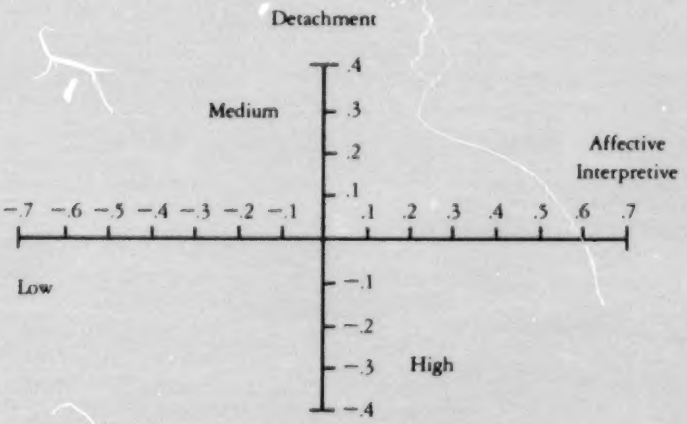


Figure 20. Responses according to Liking "The Sea"—Population IV.

Summary

In this reexamination of the response patterns of secondary-school students in the United States, we have found first that there is an "academic" response to literature that appears to be independent of the selection read and that accompanies good comprehension of the selection. Students apparently learn to read fiction and simultaneously to acquire a response set that concerns itself with thematic interpretation rather than literary analysis or literary history. There is an affective edge to this pattern, and there is somewhat an analytic edge. We have found further that this pattern becomes sharper as students progress through secondary school and that the affective edge is linked to whether or not the student likes this selection. The pattern is further linked to sex and socio-economic status. A somewhat distinct pattern emerges for another group, those who report themselves to be consistently involved in what they read.

From these findings, we may, I think, conclude that the thematic and moralistic pattern of response is learned and corresponds to a pattern popular with academically-oriented teachers (chapter 2). The students would appear somewhat less concerned with formal matters than their teachers, or perhaps they see the formal questions as less important because they are a means to interpretation rather than as an end of inquiry. One suspects that the teachers share such an emphasis but viewed the questions pedagogically, and so they included propaedeutic as well as final questions.

The study, then, raises more sharply the probability that responses to literature are learned. It also raises the next question: are these the responses that we want children to learn? Without answering that question, I would argue that the United States pattern is clearly consonant with our traditions of moral criticism and hermeneutics. Clearly not aesthetic, the pattern seems a vestige of the Puritan heritage. One may raise as a final question how long that heritage will remain.

5 Conclusion

Thus far this report has been mainly descriptive and interpretive; to use the terminology in part developed for this study (Purves and Rippere, 1968), one may now turn to evaluation. Are United States teachers and students doing well? Can they do better? Certainly by international standards United States students perform creditably on tests of reading comprehension and understanding of literature. In fact, one may say that the United States system has worked remarkably well. A greater percentage of the age group finishes secondary school than in any other country, and the reading level of that group is fairly high. The best students do as well as, if not better than, the best students in other developed countries. For this, schools, teachers, and students in the United States deserve a pat on the back.

Unfortunately, however, many students still do not perform well on these tests. The analysis indicates that their failure is related to a number of factors, many of them related to a lack of opportunity to learn: to be exposed to materials to read, to be provided with an environment full of adult language and stimulating reading materials, to be provided with incentives to read and to perform well in school, and to be provided with practice in some of the specific skills required by standardized tests of reading comprehension One may attack those tests, but there is sufficient evidence that they are valid in that they call for close attention to the text, not only its content, but its form. It is attention to form that the low-achieving students are denied.

These students also tend to be in schools where the teachers follow a line of least resistance. The teachers use a lot of drill and in-class work; they require little homework and little writing. Although the teachers are using individualized reading programs, one suspects that the individualization is on the basis of skill rather than interest. There would seem to be little in the classroom to stimulate these students to read more and to read more critically. The focus appears to be on decoding and "busywork." Perhaps the students are "unmanageable" and the teacher can do little else, but one wonders whether there is not a failure of the imagination on the part of these teachers.

On the basis of these data, one might conclude that poor students are treated poorly. Little is done in school to compensate for the lack of language-rich environment at home. The school is dull and the students end up as

dullards. It would seem possible that the schools could change, could become places where the language and reading of children are stretched, where a variety of experiences is made available, where drill is replaced by writing, where lectures are replaced by questioning, and where individualized instruction is replaced by small group work. Maybe none of these changes will be effective, but it would seem worth the effort to experiment with some changes in the curriculum for the low-achieving student.

As chapter 2 indicates, these changes cannot be done simply by fiat; the teachers need inservice instruction, and they need instruction in language, reading, and literature. They need to be encouraged to belong to professional organizations, and to take their craft seriously. The imaginations of teachers need to be enlarged so that they can enlarge the imaginations of their students. Of course, it is difficult to be imaginative under bad working conditions, but those conditions and the spirit of the teachers need further examination to see what might be done.

When one turns to response to literature, one finds a clear indication that patterns of response are learned in secondary school. If they are learned, they appear to have been taught, if not as a conscious part of the curriculum, at least as a part of a "hidden curriculum." Able students pick up the pattern and tend to apply it rigorously to almost any text they read. Less able students appear to flounder when they approach a text, as if they are looking for a way to make it their own. Teachers of less able students seem to raise questions that help students get into the text, but perhaps they do not ask the questions devoted to understanding. A cynic might even say that United States teachers operate on the principle: "Teach the bright ones to be clever and the dumb ones to be honest."

On the other hand, it may well be that teachers are simply following the cues of their students and reinforcing a set of natural tendencies; whatever the explanation, it appears clear that in reading and in response to literature, there is congruity between teacher and student. Teachers of able students appear to encourage students to examine what they read and to read the style as well as the content; teachers of less able students appear to remain on the surface and to explore personal connections between reader and text. Whether what teachers and students do is what they should do remains, to me, somewhat of an open question. I think that many students might well be encouraged to undertake a more rigorous examination of their understandings of what they read and to look to style as well as content. It may suffice to encourage students to read more for personal satisfaction, and to read with less of an emphasis on analysis and interpretation. The choice is a difficult one, and it may also depend upon the situation of both teacher and student. Nonetheless, I think the question

needs to be raised and discussed. It is also clear that there could be a number of experimental studies based on the question, studies which would test out the fruitfulness of pursuing a more rigorous intellectual examination with students listed as "less able." Such studies should not look at cognitive growth only, but at attitudes and reading habits as well.

In sum, then, this analysis has indicated that there are indeed patterns of instruction, patterns of learning, and patterns of response that appear to emerge as outcomes of the curriculum in reading and literature. Schools indeed do make a difference, particularly when these schools support (either positively or negatively) the home. Whether the patterns that emerge are the patterns that teachers, curriculum planners, and the public want should be the subject of debate.

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Appendixes

Appendix A: IEA Reading Comprehension and Literature Tests with Student and Teacher Questionnaires

Reading Comprehension

- Population I
  - Section C Reading Comprehension Test
  - Section D Reading Comprehension Test
  - Section P Reading Speed Practice Test
  - Section J Reading Speed Test
- Population II
  - Section C Reading Comprehension Test
  - Section D Reading Comprehension Test
  - Section E Student Questionnaire—General and Mother Tongue
  - Section P (same as Population I—Section P)
  - Section J (same as Population I—Section J)
- Population IV
  - Section C Reading Comprehension Test
  - Section D Reading Comprehension Test
  - Section E (same as Population II—Section E)

Literature

- Populations II and IV
  - Section X "The Use of Force"
  - Section Y "I See You Never"
  - Section Z "The Man by the Fountain"
  - Section W "The Sea"
  - Section Q Student Questionnaire—Literature
  - Section R Literature Attitude Scales (Transfer and Interest)

Teacher Questionnaire—General and English

Population 1—Reading Comprehension

Directions: This is a test to see how well you understand what you read. The test is made up of four stories with a number of questions on each. Read the first story and then answer the questions on each. Then go on to the second story and so on until you come to the end of Section C.

Each question has four possible answers. Pick the *best* ending or answer and blacken the oval on the answer card which has the same letter as the answer you have chosen.

You may read the story over again as much as you need to. Try each question in turn. If you don't know the answer, leave it and go on to the next question. You may come back to it later if you have time.

Please answer even if you aren't quite sure. However, do not guess blindly.

When you finish one story go on to the next. Continue until you reach the end of Section C. If there is time left, go back and try to do any that you omitted.

[Similar directions obtain for Section D following.]

Section C—Reading Comprehension Test

Passage 1: One of the most interesting birds I have seen is the Indian Tailor Bird. It is a small olive green bird that doesn't look at all unusual, yet it has a most unusual way of making its nest. The birds work together in pairs. First they find a leaf, the right size, and make holes along the edges with their beaks. Through these holes they thread grass. One bird pushes the thread from the outside, while the other bird sits in the nest and pushes it back until the edges of the leaf are sewn together to make a kind of bag, still hanging on the tree, in which the Tailor Bird lays its eggs.

1. What does the Tailor Bird use in place of thread?
   - *A. Grass.
   - B. String.
   - C. Spider web.
   - D. Thorns.
2. The Tailor Birds are interesting because they
   - A. are small and olive green in colour.
   - B. live in pairs.
   - *C. make their nests in a special way.
   - D. fly very fast.
3. The Tailor Bird got that name because it
   - A. is a small bird.
   - B. looks unusual.
   - *C. can sew.
   - D. has a beak shaped like a needle.
4. The Tailor Birds make their nests
   - *A. from leaves.
   - B. in a hole in a tree.
   - C. in the tall grass.
   - D. with a lining of grass.
5. The person who wrote about Tailor Birds was trying to
   - *A. give you some new information.
   - B. tell you a story.
   - C. get you to share his feelings.
   - D. keep you guessing on how the story will come out.

Passage 2: Once I watched a mother seal with twin babies for an hour or two and could have spent hours more observing them if time had permitted. Sometimes the two little animated balls of down would snuggle side by side and suckle together while their mother dozed. Then the little imps would play pranks on her, brushing and tickling her face with their flippers and nipping at her head and neck as they frisked and teased around her. She dozed with one eye held open, always keeping a watchful glance upon her offspring and now and again she would lift her head to regard them and to give a deep bay, which I could only interpret as an expression of unalloyed contentment with her happy lot.

Like a cow licking her calf, occasionally she would caress her babies, snuffling and nibbling, for seals are short-tongued creatures.

6. The mother kept watch over her babies while she rested by
   A. lifting her head to watch them.
   *B. dozing with one eye open.
   C. caressing them fondly.
   D. suckling them.
7. The writer calls the baby seals "imps" because they
   A. did not like to stay still.
   *B. liked to tease their mother.
   C. snuggled side by side.
   D. were small.
8. The writer lets us know it is hard for the mother to lick the baby seals because
   A. they will not keep still.
   *B. she has a short tongue.
   C. she goes to sleep.
   D. they tickle her face.
9. The writer thought that watching the seals was very
   A. exciting.
   B. useful.
   C. difficult.
   *D. interesting.
10. The writer talks about the baby seals and their mother as if
   A. he had never actually seen them.
   B. they were lifeless.
   *C. they were human.
   D. they were troublemakers.

Passage 3: Robert, standing in the stern, was confidently poling the punt over the waters of the narrow river that sunny afternoon, while Joan sat on the cushions facing him, trailing her hands in the cool water. Robert was proud of his skill, and was poling along with quite a flourish. The punt approached the lowest bridge on the river, where Robert knew he must bend low to avoid the arch. Alas! Though he bowed low, the pole stood upright, wedging itself in the mud of the river bed and against the arch of the bridge.

There was a brief struggle while Robert tried to decide whether to leave the pole and stay on the punt or accept the alternative. But the punt wouldn't wait for decisions and Robert was left clinging to the pole. Further and further into the mud the pole sank, while he climbed higher and higher to keep out of the water. Just when it seemed to the amused watchers that he must at last fall in, he was saved. Joan managed to paddle the punt back to his rescue.

11. When the pole started to sink into the mud, Robert
    A. began to get wet.
    B. called to Joan for help.
    *C. climbed up the pole.
    D. climbed onto the bridge.
12. The punt had two things to make it go. These were a
    *A. pole and a paddle.
    B. pole and a pair of oars.
    C. pole and a motor.
    D. paddle and a pair of oars.
13. When Robert has to "accept the alternative," the alternative was to
    A. jump into the river.
    B. stay in the boat.
    C. have Joan save him.
    *D. hang onto the pole.
14. How did Joan feel about Robert's mishap?
    *A. we cannot tell.
    B. she was amused.
    C. she was embarrassed.
    D. she was angry.
15. The pole was held upright at the bridge by
    A. only the mud on the river bottom.
    B. only the arch of the bridge.
    *C. both the mud and the bridge.
    D. Robert holding onto it.
16. We know that the river was not very deep because
    *A. Robert pushed the punt with a pole.
    B. punts do not need much water.
    C. the bridge was very low.
    D. the bottom was muddy.

Passage 4: For three or four thousand years a family of marmots had been settled in a grassy little valley under the cliffs of a jagged peak whose present name is the Rock of Wonders. The maps specify that the peak is about seven thousand two hundred feet in altitude.

The spot was a remarkably suitable one for all sorts of good reasons. In the first place, the slope faced south. The sun shone on it from dawn until dark, and in the spring the snow melted there faster than anywhere else. One could warm oneself as much as one wished, or again one could sit in the shade of huge rocks fallen from the heights of the mountain. A little way off a tiny spring fed a little lake. Thanks to this fresh spring, which never dried up, the grasses round about grew thick and strong, even in the month of August.

The rocks provided many sitting places and perfectly safe holes where one could take refuge in an emergency. As for the Family Cave, hollowed out many years ago by the grandfather of the present inhabitant, it opened out pleasantly from under a flat slab between two clumps of arnica. Since it had already been improved by two generations, it would have been difficult to find a drier and more comfortable apartment.

17. Why had the marmots lived so long in one place?
    A. They did not like to travel.

B. They could not climb down the cliffs.
C. They came there long ago.
*D. It was a very good place.

18. What kept the grasses in the valley green and healthy all summer?
A. The warm sun.
B. The melting snow.
C. The high peak.
*D. A spring.

19. Why was it a good thing that the valley faced to the south?
A. The summer days were warmer.
*B. Winter snows melted early.
C. The best view was to the south.
D. Marmots need a lot of sun.

20. From the story we know that marmots like to live in a home that is
A. warm.
B. light.
*C. dry.
D. large.

21. The last sentence of the story makes us think that the marmots will
A. make many new homes.
*B. continue to live in the Family Cave.
C. have many babies.
D. work hard to make the cave comfortable.

Section D — Reading Comprehension Test

Passage 5: The sundew is a small, pretty plant, that grows in damp, boggy places. Its leaves grow in clusters on slender reddish stems. On each leaf there are several beautiful shining drops that look like the smallest dewdrops you can imagine. A passing insect sees the drops and thinks they are drops of sweet nectar. He lights on the sundew's leaves. Surprise! The sticky drop is not nectar. It is the glue that the sundew uses to attract insects. The small leaves close over the insect. Soon the insect disappears, for the sundew is one of the strange plants that eat living insects.

1. Insects are most attracted to the sundew when they want to
A. play.
B. hide.
C. rest.
*D. eat.

2. An insect lighting on a sundew disappears in the
A. sunlight.
B. sky.
*C. plant.
D. bog.

3. When an insect that has lighted on a sundew disappears, it has
*A. been eaten.
B. flown away.
C. gone to sleep.
D. fallen to the ground.

4. You would expect to find the sundew growing in places where it was
A. cold.

*B. wet.
C. high.
D. grassy.

5. The sundew's leaves are
A. slender.
B. shining.
*C. in clusters.
D. covered with dew.

Passage 6: Ernenek slipped out of his sleeping bag. On top of his clothes made of small auk's skins, with the feathers inside, he put on other clothes made of bear skin, with the fur on the outside, and pushed the trouser legs into his sealskin boots.

He came out of the narrow tunnel of the igloo on all-fours, pulling the half-asleep dog, who was the leader of the team, by its leash, while the other dogs followed yawning and shaking the rime off their thick fur. They clamoured for food by barking and showing their teeth which had been filed with stones so that they could not gnaw their bridles; they looked more like wolves than dogs with their pointed muzzles and their yellow, glowing eyes.

Ernenek iced the sledge runners, then he harnessed the dogs, unfastened the sledge anchor and climbed on to the sledge. Under the whip, the dogs formed out behind the leading dog, pulling on the traces, which attached them separately to the sledge and yelping behind the white clouds of vapour coming out of their mouths.

It was hot; the temperature must have been about 17 degrees below zero and Ernenek did not have to run behind the sledge to warm himself; he could remain sitting and enjoy the drive.

The icy ocean on which he travelled, frozen to a depth which exceeded a man's height and superficially covered with snow, bore the clear trace of the sledge of his friend who had started before him.

Ernenek did not turn to look at the solitary igloo he was leaving behind, a minute cute hump of ice at the top of the world.

6. Ernenek's dogs resembled wolves because they had
A. a very sharp sense of smell.
B. filed teeth and a small muzzle.
C. great strength to pull the sledge.
*D. pointed muzzles and glowing eyes.

7. We can tell from the passage that auks are
A. animals like bears.
B. related to seals.
C. dogs that pull sledges.
*D. birds.

8. The dogs' teeth had been filed with stones to make them
A. sharp.
B. clean.
C. smooth.
*D. blunt.

9. Why did Ernenek ice the runners of his sledge?
A. to cool them off.
*B. to make them slippery.
C. so he could harness the dogs.
D. to remove the dirt.

10. In describing the dogs, the writer tries to make them seem
    A. brave.
    B. strong.
    C. well-trained.
    *D. savage.
11. In saying that Ernenek's igloo was "at the top of the world," the writer means that it was
    A. on the icy ocean.
    *B. near the North Pole.
    C. far from any other home.
    D. very small and unimportant.
12. We can tell from the fourth paragraph that
    A. It was a really hot day.
    B. Ernenek hated to run.
    C. Ernenek got cold easily.
    *D. Ernenek was used to very cold weather.

Passage 7: Simonedes was a poet. He wandered round the wealthy cities of Asia, composing poems and singing the praises of warriors for such reward as he could gain. By this means he gathered a considerable amount of wealth, and after some years he made up his mind to return by sea to his native island of Ceos. While he was on the ship, a dreadful storm arose, and all the passengers began in panic to gather together their precious belongings.

Simonedes stood on the deck calmly, making no effort to gather up his own baggage. Some of the other passengers were amazed at this, and one of them asked Simonedes why he was not trying to save any of his property. "All my real wealth," said Simonedes, "is in my head". The others laughed at the foolish poet, and as the ship foundered they leapt into the sea weighed down with all their possessions. Some of them attempted to carry such heavy burdens that they drowned. Others managed to struggle ashore. But here they were set upon by thieves, who stripped them naked of all that they owned.

Simonedes, meanwhile, made his way to the nearest town, without being robbed, since he had nothing for the thieves to take. No sooner was he in the streets than he was recognized by a lover of his poetry, and showered with clothes, gifts and hospitality.

Next day, as he was walking with some of his new friends and admirers, Simonedes happened to see some of his fellow travellers, who were begging for food and shelter. As soon as he saw them, Simonedes said, "You see, you laughed at me on the ship when I said that my real wealth was in my head. But now you are beggars while I am well clothed and on my way to being prosperous again; now I can help you. What you have tried to save is all lost. But I carried my riches along with me—my poems."

13. Simonedes had made his living by composing poems that told of
    A. the beauty of nature.
    B. life on the sea.
    C. life in ancient times.
    *D. the great deeds of warriors.
14. The other passengers laughed at Simonedes because he
    A. had no baggage.
    *B. did not try to save his possessions.

C. was so frightened of the storm.
D. read poems during the storm.

15. The thieves did not rob Simonedes because he
A. was recognized by them.
*B. had no possessions.
C. made poems for them.
D. was able to escape them.

16. What suggests that Simonedes' poems were not written down?
*A. He said his real wealth was in his head.
B. He did not try to gather his belongings.
C. They had to do with the deeds of warriors.
D. No one recognized his poetry.

17. When Simonedes said "my real wealth is in my head", he meant
*A. by his knowledge he could earn new wealth.
B. beauty is more important than mere possessions.
C. he had very little that he owned.
D. he was a very intelligent man.

18. The idea that the writer of this story is trying to get over to us is that
A. possessions are of no value.
B. life is dangerous and uncertain.
*C. poetry may be wealth.
D. poetry is beautiful.

19. In this story, the author's main purpose is to
A. entertain his reader.
B. write very beautifully.
*C. weave a lesson into the story.
D. give some useful information.

Passage 8: Before the advent of hunters with guns, the musk ox was king of the tundra. His heavy coat protected him against the cold of winter and the swarms of bloodsucking insects in summer. With his heavy hooves he could break the ice crusts that covered the willow branches he was so fond of. When danger threatened, the bulls lined up before the cows and their young. With their strong, sharp horns they were more than a match for wolves or hunters with primitive weapons. But when they lowered their heads and charged they made an easy target for a huntsman with a gun. And so now there are only about seven thousand musk oxen.

20. The word "advent" in line 1 most nearly means
A. sport.
B. attack.
C. ending.
*D. arrival.

21. If a hunter went to hunt the musk ox in summer, the worst trouble he would face would be
A. wolves.
*B. insects.
C. the charge of the bulls.
D. a chance of frost-bite.

22. The last sentences suggest that
A. the musk oxen are dying off.

B. the musk ox is a stupid animal.
C. the musk ox cannot survive in today's world.
*D. hunters are killing too many musk oxen.

23. The musk ox lives in the
*A. far North.
B. desert.
C. jungle.
D. mountains.

24. The writer's feelings about the musk ox can best be described as
A. fear of such a powerful animal.
B. eagerness to go and hunt one.
C. interest in their care for their young.
*D. concern that they may all be killed.

Section P — Reading Speed Practice Test

Directions: Here is a story. The story has many little parts. When you come to the end of a part there will be three words like this:

one two three

Put a line under the word that fits in the story. For this test you underline the words in the booklet.

Read as fast as you can, and see how many parts of the story you can read *and mark* in the time that you have.

Remember—read as fast as you can, but be sure to mark the right word after each part of the story.

Do not use an eraser. If you change your mind, cross out your first answer and then put a line under your second choice.

[Similar directions obtain for the Reading Speed Test following.]

1. Yesterday we went to the airport. While we were there a big plane came in. On each side of it there were a great many
eggs *windows wings

2. We saw the people get out of the plane. Some of them had bags in their hands. The bags had been in the
airport people *plane

3. We went to meet my Aunt Jane. She was coming to spend two weeks with us. We shall see Aunt Jane for two
days *weeks months

4. Aunt Jane has three children. The oldest is a boy and the other two are girls. The name of Aunt Jane's oldest child is
Alice Mary *Roger

5. Next week Roger will come to visit us too. He will stay and go home with my Aunt Jane. He will go home with his
brother *mother sister

6. Roger is two years older than my brother John. John was ten years old last month. Roger's age is now
eight ten *twelve

7. While Roger is here we will go to the zoo. We will see the lions and the bears.

These are what we like best in the

house store *zoo

8. Mother will make a big cake for Roger. He likes chocolate cake very much, and so the cake my mother makes will be

fresh little *chocolate

9. Roger will sleep in the same room with my brother John. There are two beds in the room. Each boy will have his own

*bed dog room

10. Roger likes to ride in the car. There are many nice drives near the city where I live. We will take Roger for a long

*ride walk while

11. Next summer I hope to visit Roger. I will ride to his city on the railroad. I will go to visit Roger in a

car plane *train

12. Roger lives near a large lake. We like to swim in the lake when it is warm. We only swim there in the

night *summer winter

13. There are many boats on the lake. Some of them have sails, and some of them have motors. All of them are on the

*lake land shore

14. The sailboats need some wind in order to go. Boats with a motor need no wind at all. A motorboat is the best kind on a day that is

*calm dry windy

15. The white sails of the sailboats are very pretty. The wind on the sails makes them tip. On a windy day the boats on the lake are very

dry empty *pretty

16. On my train trip I will pass many farms. There are some cows on these farms. From the train I shall probably see some of these

*cows sheep trees

17. Some of the cows are black and white, and some are brown and white. The brown and white cows give the richest milk. Milk from the other cows is not so

clean much *rich

18. The train will make four stops on the way to Roger's city. I do not get off at any of them. The stop that I get off at is the

first second *fifth

19. The first stop is at the town of Bellport. Here there is a factory where shoes are made. Shoes are the main product in this

country *town village

20. After that we come to Pennsville. We stop there for only two minutes, and there is no time to get off. The stop is very

late long *short

21. The third stop is Johnson City. This is where we change engines. The stop at Johnson City has to be long enough to put on a new

*engine hat train

22. From Johnson City it is only one hour to the city where my friend lives. One hour after we leave Johnson City, I will get

in *off wet

23. For the last hour, most of the way is through forest. For that part of the trip we see many trees, but we see very few

branches *houses leaves

24. There are some animals in the forest. But these animals are afraid of the train. When a train comes through the forest they run

*away by up

25. Because the animals are afraid, we will probably not see them. They will keep out of sight. We will be sorry not to see the

trees *animals people

26. At the fifth stop, I will get off the train. Roger will meet me at the station. I will be glad to see him in the

car morning *station

27. From the station we will drive to Roger's house. We have to drive all the way across town from the south to the north. On the south side of town is the

house lake *station

28. Roger lives on the edge of town. It is a short walk from his house to the lake. It is easy to walk from his house to the

*lake station store

29. The lake by Roger's house is very wide. It is two miles to the far side. Houses on the far side of the lake look very

large pretty *small

30. A road goes all the way around the lake. It makes a very long walk around the lake, but it is not hard to go around in a

*car hurry minute

31. Roger has two friends who live in the house next to his. Both of them are boys. How many boys live in the house next to Roger?

one *two three

32. Roger likes to play ball with his two friends. They all play on a team at school. There are five boys on the team. Two other boys play on the team with Roger and his

*friends sisters uncles

33. On the other side of the lake there are several large farms. The farms grow mostly corn to feed to animals. These animals like to eat

*corn fish meat

34. We will go to see the farms. We will work helping the farmer feed his animals. If we work hard, we may get a treat from the

animals *farmer help

35. It will be hot working on the farm. When we are through we will swim in the lake. This will make us feel much

*cooler sleepier stronger

36. I will stay at Roger's house for ten days. After that I will come back to my

own house. I will stay at Roger's house more than a

month *week year

37. When I come back home Roger's father will drive me in his car. It will take about six hours. We will leave in the middle of the morning and get home in the middle of the

*afternoon night morning

38. The road from Roger's house to mine is not a good road. It was built many years ago. It has had much wear, and the ride will be

*bumpy quick slippery

39. It will be good to be home again. The trip will be great fun, but I will miss my own family. When I get home and see them, I will be

*happy sick tired

40. My friends at home will be glad to see me too. When I am home we sometimes fight, but when I come back from a trip they are always

alone mad *nice

Section J — Reading Speed Test

1. Peter has a little dog. The dog is black with a white spot on his back and one white leg. The color of Peter's dog is mostly

*black brown grey

2. When Peter got the dog it was a small puppy. Now the dog is a little more than two years old. How many years has Peter had the dog?

one *two three

3. Peter's dog has a spot on his back. That is why Peter named the dog Spot. The dog was named after the spot on his

*back ear leg

4. The dog has learned to do two tricks. One trick is to catch a ball. To stand on its hind legs is the second

story *trick way

5. When he was a puppy Spot was fed three times a day. Now he is fed only once. The number of times is now

often *less many

6. Spot is most happy when he gets a bone. He would like to have a bone every day, but he does not get one that

small hungry *often

7. Spot lives in his own little house. It is a red house and it is made of wood. The house that Spot lives in is

green *red white

8. Peter's mother does not like to have Spot in her house when he has dirty feet. When his feet are dirty Spot must stay

inside hungry *outside

9. Sometimes Peter has dirty feet too. Then his mother makes him wipe them off on the mat. The mat is used to keep the house

*clean dry warm

10. Peter likes to play with Spot. Often they run together. Peter can run quite fast, and yet Spot can run

    *faster now home

11. One day Peter went for a long walk. Spot came along too. Spot had great fun. When Peter goes for a walk Spot always wants to

    eat *go sleep

12. While they were walking they saw a bird. The bird was sitting on the ground under a tree. Peter saw the bird sitting on the

    branch *ground tree

13. Spot saw the bird too. Spot wanted to catch the bird. The bird was something that Spot wanted to

    *catch find scare

14. Spot ran after the bird. While he ran after the bird he kept barking. Spot was barking while he chased the

    ball *bird boy

15. When Spot chased the bird it flew away. It flew up into the tree. It flew to the top of the tree and sat on a

    *branch store box

16. Spot was surprised. He did not know where the bird had gone. He did not know that the bird had flown to the

    bush house *tree

17. Spot ran around in circles. He ran this way and that way. He kept looking and looking. He was looking for the

    *bird bone dog

18. The bird in the top of the tree started to sing. He sang because he was happy. Because he was safe in the tree he started to

    fly *sing sleep

19. A second bird came to the tree too. He came to join the first bird. How many birds were there in the top of the tree now?

    none one *two

20. The birds flew away from the tree together. They flew to a field of wheat. The birds were hungry and wanted to eat some

    berries corn *wheat

21. There were many birds in the field. They were all eating the grains of wheat. They were all eating the wheat in the

    box *field house

22. Spot and Peter came walking by the field. When Spot saw the birds, he was very excited. He was excited to see so many

    *birds grains people

23. Spot ran into the field. When he got to the middle of the field, he started to bark. He stood barking in the middle of the

    day *field night

24. The birds did not wait for Spot. Before he reached the field they flew away.

They flew away because they were

*afraid alone hungry

25. Spot did not know what to do next. He sat barking in the middle of the field. He sat and waited for Peter to

bark *come cry

26. Peter came to the edge of the field and stood still. Then he called to Spot. He called to Spot from the edge of the

*field road river

27. When Peter called, Spot ran over to him. Peter patted Spot on the head. Because Spot obeyed Peter, Peter thought he was a good

boy *dog fighter

28. They walked until they came to the main road. There they saw a bus come by loaded down with people. There were a great many people in the

*bus house town

29. The bus was going to the next town. In this town there is a large market. Many people ride the bus to go to the

lake *market station

30. Peter saw his father on the bus. Peter's father works in the next town. He has to ride the bus when it is time to go to

bed visit *work

31. Peter walked along the road with Spot. They met another dog on the road. Spot growled and growled at the other dog. Spot was not

greedy *friendly lonely

32. The other dog started to growl too. But then he turned and ran away. He was afraid of Spot. The other dog was not very

hungry *brave sad

33. Peter and Spot came to a bridge across a stream. Peter got some small stones from the side of the road. He threw them into the

lake puddle *stream

34. Spot saw Peter throw a stone. He started to run after the stone. He did not see the stream. He fell into the

hole mud *water

35. Spot started to swim. He swam across the stream and came out the other side. Then he ran back to Peter across the

*bridge lake field

36. Spot was all wet. He started to shake himself. He shook himself right beside Peter. When he shook himself, it made Peter

glad hot *wet

37. Peter stood in the middle of the bridge and watched the stream. He saw something small swimming in the stream. He thought it was a

boat boy *fish

38. Now it was time for Peter to go home. There was some work to do at home. Peter often did work in the garden. He was a very good

cook *gardener tailor

39. Peter and Spot hurried home. Peter's mother was waiting by the door. She had some gardening to be done, so she was glad to see

sunshine *Peter Spot

40. Peter hurried to get his work done. His mother had promised him some candy when he was finished. He wanted to finish so he could get the

ball *candy money

Population II—Reading Comprehension

Directions: This is a test to see how well you understand what you read. The test is made up of four stories with a number of questions on each. Read the first story and then answer the questions on it. Then go on to the second story and so on until you come to the end of Section C.

Each test item starts with a statement or question and then gives you four endings or answers. Pick the *best* ending or answer and blacken the space corresponding to the answer you have chosen on your answer card.

You may read the stories over again as much as you need to. Try each question in turn. If you don't know the answer, you may leave it and go on to the next. Come back to it later if you have time.

You should answer even if you aren't sure; however, do not guess blindly.

When you finish one story go ahead to the next. Keep on working until you reach the end of Section C. If there is any time left, go back and try to do any questions that you skipped the first time through.

[Similar directions obtain for Section D following.]

Section C — Reading Comprehension Test

Passage 1: Ernenek slipped out of his sleeping bag. On top of his clothes made of small auk's skins, with the feathers inside, he put on other clothes made of bear skin, with the fur on the outside, and pushed the trouser legs into his sealskin boots.

He came out of the narrow tunnel of the igloo on all-fours, pulling the half-asleep dog, who was the leader of the team, by its leash, while the other dogs followed yawning and shaking the rime off their thick fur. They clamoured for food by barking and showing their teeth which had been filed with stones so that they could not gnaw their bridles; they looked more like wolves than dogs with their pointed muzzles and their yellow, glowing eyes.

Ernenek iced the sledge runners, then he harnessed the dogs, unfastened the sledge anchor and climbed on to the sledge. Under the whip, the dogs formed out behind the leading dog, pulling on the traces, which attached them separately to the sledge and yelping behind the white clouds of vapour coming out of their mouths.

It was hot; the temperature must have been about 17 degrees below zero and Ernenek did not have to run behind the sledge to warm himself; he could remain sitting and enjoy the drive.

The icy ocean on which he travelled, frozen to a depth which exceeded a man's height and superficially covered with snow, bore the clear trace of the sledge of his friend who had started before him.

Ernenek did not turn to look at the solitary igloo he was leaving behind, a minute cute hump of ice at the top of the world.

1. Ernenek's dogs resembled wolves because they had
   A. a very sharp sense of smell.

B. filed teeth and a small muzzle.
C. great strength to pull the sledge.
*D. pointed muzzles and glowing eyes.

2. We can tell from the passage that auks are
A. animals like bears.
B. related to seals.
C. dogs that pull sledges.
*D. birds.

3. The dogs' teeth had been filed with stones to make them
A. sharp.
B. clean.
C. smooth.
*D. blunt.

4. Why did Ernenek ice the runners of his sledge?
A. to cool them off.
*B. to make them slippery.
C. so he could harness the dogs.
D. to remove the dirt.

5. In describing the dogs, the writer tries to make them seem
A. brave.
B. strong.
C. well-trained.
*D. savage.

6. In saying that Ernenek's igloo was "at the top of the world," the writer means that it was
A. on the icy ocean.
*B. near the North Pole.
C. far from any other home.
D. very small and unimportant.

7. We can tell from the fourth paragraph that
A. It was a really hot day.
B. Ernenek hated to run.
C. Ernenek got cold easily.
*D. Ernenek was used to very cold weather.

Passage 2: Paracutin was born in Mexico in February, 1943. At the end of one week, Paracutin was 500 feet high and it is now over 9,000 feet high. Today Paracutin is asleep.

What is Paracutin? It is the only volcano in the world which has been seen from its birth right up to the present day. On February 20, 1943, a peasant and his wife set out to work in their maize fields from the Mexican village of Paracutin. They were surprised to find the earth warm under their feet. Suddenly they heard noises deep in the earth and a small hollow appeared in their field. In the afternoon there was a sudden loud noise and stones were flung high in the air. The peasants ran from the field and turned to watch. They saw the birth of a volcano.

There were great bursts of stone and lava and a little hill began to form. By evening this hill was 100 feet high and hot ashes were falling on the village. At night the glare of the hot lava lit up the countryside. The trees near the village were killed and the villagers had to leave their houses. When the village was abandoned,

its name was given to the volcano. The news quickly spread to Mexico City, far to the east. Many sightseers and scientists flocked to the scene. The volcano grew and grew for ten years and hundreds of square miles of forest were destroyed. Then Paracutin went to sleep. In spite of all the explosions, not one person was killed.

8. Paracutin was once the name of
   A. a peasant.
   *B. a village.
   C. an old mountain.
   D. a Mexican.
9. What was destroyed in the eruption?
   A. only a village.
   B. the villagers living close by.
   *C. the forests and fields around Paracutin.
   D. two peasants.
10. When the writer says that Paracutin "went to sleep," he means that it
   A. flattened out.
   *B. stopped sending out ashes and lava.
   C. will never be a volcano again.
   D. got covered with grass and trees.
11. In this passage the author is trying to
   *A. describe an interesting happening.
   B. explain a scientific theory.
   C. make us believe something.
   D. build up suspense.
12. Paracutin is now
   A. erupting.
   *B. temporarily inactive.
   C. permanently dead.
   D. flattened.
13. From the story, where does it appear that Paracutin is located?
   A. In eastern Mexico.
   *B. In western Mexico.
   C. In northern Mexico.
   D. In southern Mexico.
14. What can we learn about volcanoes from this passage?
   *A. New volcanoes may appear in unexpected places.
   B. There have always been volcanoes on the earth.
   C. Volcanoes are active from time to time.
   D. Volcanoes are active for only a few months.

Passage 3: During the present century, scientific study of man's surroundings and experience is commonly accepted as the desirable way to determine the truth or falsity of statements, opinions, or beliefs.

This was not always so. During past centuries there was much reliance on authority. The opinions expressed by persons in positions of authority and the written statements in approved documents were frequently accepted and taught as oracles of truth. Those questioning the accuracy or validity of these opinions were in grave danger. Many persons, later recognized as leading contributors to the progress

of mankind, suffered torture, imprisonment, and even death because they dared to question beliefs or opinions which we now see to have been demonstrably false.

The scientific method emphasized the inductive rather than the deductive approach to the solution of problems. The inductive method is characterized by observations, measurement, definition, enumeration, classification, and the formulation of conclusions on the basis of objective evidence. On the other hand, authoritarianism utilized the deductive method, namely, reasoning from the major premise to a conclusion, without necessarily making explicit all the elements involved in the final statement or opinion.

In one sense authority and scientific method may be harmonized. It is conceivable that the major premises of an authority may be based on scientific studies which have produced demonstrable truths. Deductions made with these truths as major premises and with strict adherence to the principles of logic should be valid.

15. Scientific method has been encouraged
    A. for many centuries.
    B. continuously.
    *C. recently.
    D. by authoritarians.
16. "Authority" as used in line 5 of the above article, means
    *A. traditional wisdom.
    B. scientific analysis.
    C. inductively determined fact.
    D. superstition.
17. Deductive reasoning assumes the accuracy of
    A. conclusions.
    *B. major premises.
    C. facts.
    D. a logical synthesis.
18. A central idea of the preceding article is that
    A. deductive methods are hard to apply.
    B. science and logic are opposed.
    C. facts and opinions are about the same thing.
    *D. scientific and authoritarian methods may complement each other.
19. Which of the four paragraphs is primarily concerned with comparison?
    A. 1st
    B. 2nd
    *C. 3rd
    D. 4th
20. Which of the four paragraphs is primarily concerned with synthesis?
    A. 1st
    B. 2nd
    C. 3rd
    *D. 4th

Passage 4: If you were to begin to enumerate the various uses of paper, you would find the list almost without end. Yet, there was a time when this familiar item was a precious rarity, when the sheet of paper you now toss into the wastebacket without thinking would have been purchased at a great price and carefully preserved. Indeed, for long centuries in man's history, paper was unknown. People wrote on specially prepared sheepskins or goatskins called parchment.

About twenty-two hundred years ago, the Chinese people discovered how to manufacture paper from wood pulp. Later the secret reached Europe. But for many years, the whole operation was done by hand. Imagine making paper by hand, sheet by sheet! It was a reasonably simple process, but it is easy to see why paper was used only by the wealthy.

The first machine for making paper was invented by a Frenchman named Louis Robert. It was a crude machine by today's standards. Many European and American inventors have since contributed to the development of the more efficient paper-making machines now in use. In our time, paper is used throughout the world.

21. A long time ago people used parchment to write on because
    A. parchment lasted a long time.
    *B. paper was unknown.
    C. paper tore too easily.
    D. parchment could be prepared easily.
22. The process of making paper was first discovered by
    A. an American.
    B. the French.
    *C. the Chinese.
    D. Louis Robert.
23. Why was the process of making paper by hand unsatisfactory?
    A. It was too complicated.
    B. The paper was of poor quality.
    *C. It was too slow.
    D. It was a secret.
24. We may conclude that, after Robert's invention, paper became
    *A. cheaper.
    B. more valuable.
    C. stronger.
    D. rarer.
25. The main point that is being brought out by the first paragraph of this story is that
    *A. it is only recently that paper has been widely available.
    B. for some uses parchment is better than paper.
    C. one can invent many different uses for paper.
    D. one should not throw paper in the waste basket.
26. The person who wrote this story was trying to
    A. amuse us.
    *B. help us to learn something new.
    C. change how we feel about something.
    D. write something very pretty.

Section D—Reading Comprehension Test

Passage 5: Deep silence reigned over the camp; only the guards were awake. Wrapping his warm cloak closely about him, a sentry on the furthest outpost stamped restlessly. His attention was caught by furtive shadows moving between him and the first grey light and he sensed approaching danger. The alarm was still ringing clear from his bugle as the company of the Legion seized their rifles and fell into battle order. There was no confusion, only an almost incredible neatness and speed. The square was formed about the well with the camels haltered in the middle and

the guns placed at the corners. A few signal shots were fired and the sentries fell back on the main body of the troop. All night the enemy had been gathering silently behind the encircling dune and now, with lance and sword, they charged from the surrounding crests. Three sides of the square stood firm; the fourth wavered and broke. The enemy poured into the square, stampeding the camels and stabbing the men in the back.

1. The attack took place in a
   A. forest.
   *B. desert.
   C. small town.
   D. mountain pass.
2. The attack took place just at
   *A. daybreak.
   B. midnight.
   C. nightfall.
   D. the rise of the moon.
3. We can tell that the night was
   A. hot.
   *B. cold.
   C. stormy.
   D. moonlit.
4. The camels were mostly
   A. killed.
   B. seized.
   C. ridden away.
   *D. driven off.
5. The camping place was located
   A. on a hillside.
   B. on high ground.
   *C. in a hollow.
   D. away from the water.
6. After the alarm was sounded, the sentries
   *A. came in to the rest of the troop.
   B. ran away in fright.
   C. kept firing at the enemy.
   D. blew their bugles.

Passage 6: In their first experiments the researchers let the camel have no water in eight days. It lost about 22% of its weight, about 100 kilos. When it finally was given water to drink it emptied one bucket after another, got rounder and rounder and soon returned to its normal condition. A camel can lose anything up to 25% of its weight through evaporation without any danger of losing its life. However, a loss of weight of 12% causes a man to die in a desert. The researchers, who were fond of animals, did not dare to find out how long a camel can stay alive without water. The camel that went longest without water drank 135 liters of it in 10 minutes after 17 days without a drink.

A camel can manage with a small amount of water better than a man can. And furthermore, it can regulate its perspiration much better than we can. If we are compelled to stay in a temperature higher than our normal body temperature, we start to perspire in order to prevent the temperature of our organs from becoming

dangerously high. A camel's temperature regulation is different. When the sunshine becomes hotter and hotter the body temperature of the camel follows the temperature of the environment. Only when the body temperature has risen to 40 degrees does a camel begin to perspire. When the cold night of the desert arrives a camel's temperature sinks to 34 degrees. This variation of 6 degrees means that it takes quite a long time in the daytime before a camel starts perspiring.

7. The purpose of this passage is chiefly to explain why a camel
   A. can lose so much weight.
   B. can drink so much water.
   C. does not perspire so much.
   *D. is so well suited to the desert.
8. In saying that camels "can regulate perspiration much better than we can," the author means that the camel
   A. can turn his perspiration off and on as he wishes.
   B. has more sweat glands than we have.
   C. responds to smaller changes in temperature.
   *D. does not start to perspire as soon as we do.
9. The function of perspiration in man is to
   A. prevent a drop in body temperature.
   *B. regulate the body temperature.
   C. let fluid from the body.
   D. remove salt from the body.
10. When the temperature of the air rises above 34° C a camel starts
   A. perspiring heavily.
   B. saving energy.
   *C. showing a higher body temperature.
   D. regulating its drinking of water.
11. The relation between the first and second paragraphs of this article is that the second paragraph
   *A. helps explain the results reported in the first.
   B. gives further detail about the results reported in the first.
   C. is more specific than the first in the information it provides.
   D. presents a different point of view from the first.
12. Judging from the passage, about how much does a camel weigh?
   A. 100 kilograms.
   *B. 500 kilograms.
   C. 2200 kilograms.
   D. There is no way of telling.

Passage 7: All day long we had been motoring towards Fez, and as we drew nearer to it, but at a distance still of some thirty or forty miles, we began to feel the emanation of a great and ancient city, in the same way that you have the identical experience when approaching the environs of Rome or Paris or London or Peking, some essence, indefinable but not to be confounded with any other, asserting itself in the atmosphere. Unlike a European city, Fez has no outer suburbs, and is enclosed by its own walls; but even the brown-faced, brown-legged, shaven-headed peasants, who in their dazzling white clothes worked in the sepia-colored fields—hardly so much fields as wide territories—seemed to carry some unidentifiable echo of tradition, perhaps of Pharaoh's Egypt. It was not until darkness had enveloped them that we arrived before the majestic crenellated walls of the city, and outside the gates

the strings of camels, the story-tellers and snakecharmers and lank ebony minstrels, hung with cowrie-shells, from the dark interior of the continent, and the jostling, wondering crowds that surround them by daylight had taken their departure.

13. How were the boundaries of a field in which a peasant was working marked off?
    A. The boundaries were marked by palm trees.
    B. The boundaries were marked by thick hedges.
    C. There was a fence around each field.
    *D. There were no clear boundaries.
14. What was it that first informed the travellers that they were approaching Fez?
    A. The city walls.
    B. The sepia-colored fields.
    *C. An indefinable feeling.
    D. The tradition of Pharaoh's Egypt.
15. When the travellers were confronted by the city walls they appeared to be
    A. intimidated.
    *B. impressed.
    C. disinterested.
    D. astounded.
16. The travellers arrived at the city walls when the jostling crowds
    A. were starting to gather.
    B. were at their peak.
    C. were getting ready to leave.
    *D. had gone.
17. The author's primary purpose in this passage is to
    *A. provide a vivid and interesting description.
    B. inform the reader about important facts.
    C. change the reader's attitudes.
    D. build up a feeling of suspense.
18. In the paragraph that follows this one it is likely that the author will
    A. tell about the construction of the city's walls.
    *B. describe their entrance into the city itself.
    C. tell about the early history of the city.
    D. describe the home life of the peasants.
19. The author's style is best described as
    A. simple and direct.
    B. forceful.
    C. dull and prosaic.
    *D. flowery and elaborate.

Passage 8: Traditional leather men laugh at the claims made for plastic. They say that plastic shoes are hot in summer and cold in winter. It is not so good as leather, and plastic of high quality is not cheap enough to make it profitable for shoemakers to change from leather.

This may be true for men, who buy strong, comfortable and well-made shoes. Women, however, want fashionable shoes, and do not care too much about what they are made of as long as they look smart. The high quality of leather needed to make smart and attractive women's shoes is very expensive and these shoes are so well made that they outlast the rapid changes of fashion. Only a few women can afford to buy a new pair of leather shoes each time the fashion changes.

Perhaps there will be two kinds of shoemakers in the future, those making shoes for men and the luxury market for women, whose material will be leather, and those aiming at the popular market for women. Does this mean that men will only be able to buy strong, lasting, leather shoes, and women only able to afford cheap, fashionable, plastic shoes made to last only for a few months?

20. Which of the three paragraphs represents primarily a guess about the future?
    A. Only the second.
    *B. Only the third.
    C. The first and the second.
    D. The second and third.
21. Women seem more likely to use plastic shoes than are men because women
    *A. are more interested in style.
    B. don't want shoes that wear well.
    C. can't afford to pay as much for shoes.
    D. are not as hard on their shoes.
22. Which women does the writer think will continue to wear leather shoes? Women who
    A. are interested in fashion.
    B. want new shoes frequently.
    C. are difficult to fit.
    *D. are wealthy.
23. The author's purpose in this passage is primarily to have us
    A. know more about modern techniques in shoe-making.
    B. enjoy an interesting story about shoes.
    C. become aware of differences between men and women.
    *D. think about future changes in shoes.
24. Which sentence best conveys the main idea of this passage?
    A. First sentence of the first paragraph.
    B. Last sentence of the first paragraph
    C. Last sentence of second paragraph.
    *D. First sentence of third paragraph.
25. What is the writer's attitude about making shoes of plastic?
    A. He favors them for both men and women.
    B. He favors them for women but not for men.
    C. He is against them for both men and women.
    *D. He does not express his own attitude.
26. How is the third paragraph related to the first two? It is a
    *A. speculation based on facts given in the first two.
    B. summary of points made in the first two.
    C. contradiction of the first two.
    D. explanation of the first two.

Section E—Student Questionnaire—General

Directions: Please answer all of the following questions as best you can. If you have difficulty in understanding any question, raise your hand and ask your teacher for help.

1. Name of your school _____
2. How old are you? _____ years _____ months

3. What is your grade in school? _____ grade
4. Please write your father's occupation _____

_____

(If your father is dead, give your guardian's occupation, or, if you do not have a guardian, give your father's occupation before he died.)

On the lines below, describe his occupation as clearly as you can. Please state the duties he performs and for whom he works. For example, if he is a "salesman," tell what he sells and where he works.

_____

_____

_____

5. Sex (check one)
   Boy _____
   Girl _____
6. How many students are there in your class?
   _____ students
7. About how many hours of homework do you do each week for *all* subjects?
   _____ hours per week
8. Where do you usually do your homework? (check one)
   In a room where the rest of the family talk, watch TV, etc. _____
   In a room that is usually quiet, although people are there _____
   In a room by myself _____
   I do my homework at school _____
   I never have homework _____
9. Do you *usually* have a fixed time for doing your homework? (check one)
   Yes _____
   No _____
10. How often does your mother or father help you with your homework? (check one)
    Often (at least once a week) _____
    Occasionally (once or twice a month) _____
    Hardly ever or never _____
11. When you talk at home, do your parents (check one)
    always or almost always insist that you speak correctly? _____
    sometimes insist that you speak correctly? _____
    let you speak how you please? _____
12. When you show your parents anything you have written, do they (check one)
    always or almost always check your spelling? _____
    sometimes check your spelling? _____
    rarely or never check your spelling? _____
13. How often is a dictionary used by anyone in your home? (check one)
    Often _____
    Occasionally _____
    Never, or do not have one _____
14. In your spare time at home, do your parents (check one)
    encourage you to read as much as possible? _____
    sometimes suggest you read? _____
    not mind if you never read? _____

15. When you get home from school, do your parents (check one)
    always or almost always want to know how you have done? _____
    sometimes ask about your school work? _____
    hardly ever or never ask you about your school work? _____

16. Does your family receive a *daily* newspaper? (check one)
    Yes _____
    No, but I read one most days anyway _____
    No, and I never read one _____

17. About how many hours do you usually watch TV on a *school day*, outside of school programs?
    _____ hours

18. About how many books are there in your home? (Do not count newspapers or magazines) (check one)
    None _____
    1–10 _____
    11–25 _____
    26–50 _____
    51 or more _____

19. About how many hours did you spend reading for your own pleasure last week? (not including comics) (check one)
    0 hours _____
    Less than 1 hour _____
    Between 1 and 2 hours _____
    Between 2 and 3 hours _____
    More than 3 hours _____

20. How many brothers and sisters do you have? (check one)
    0 _____
    1 _____
    2 _____
    3 _____
    4 or more _____

21. In your family are you (check one)
    the only child? _____
    the oldest child? _____
    the youngest child? _____
    somewhere in the middle with brothers or sisters older *and* younger than you? _____

Directions: Listed below are a number of subjects studied in school. Indicate for each subject listed, either that you have never studied it, or, if you have or are doing so now, the extent to which you like or dislike it, by drawing a circle around the letter which is next to the answer you choose. If you want to change an answer you have given you may do so, but be sure to erase the mark of the old answer.

22. Reading
    A. Have never studied this subject
    B. One of my favorite subjects
    C. Have generally liked this subject
    D. Have generally disliked this subject
    E. One of the subjects I have liked least in school

23. Science
    A. Have never studied this subject
    B. One of my favorite subjects
    C. Have generally liked this subject
    D. Have generally disliked this subject
    E. One of the subjects I have liked least in school
24. Social Studies (history, geography, etc.)
    A. Have never studied this subject
    B. One of my favorite subjects
    C. Have generally liked this subject
    D. Have generally disliked this subject
    E. One of the subjects I have liked least in school
25. Arithmetic
    A. Have never studied this subject
    B. One of my favorite subjects
    C. Have generally liked this subject
    D. Have generally disliked this subject
    E. One of the subjects I have liked least in school

Student Questionnaire—Mother Tongue

1. How many students are in your English class?
    A. I do not take English
    B. Less than 20
    C. 21–35
    D. 36–50
    E. 51 or more
2. About how many hours of homework do you do each week in English excluding Literature?
    A. I do not take English
    B. Less than 2 hours
    C. Between 2 and 5 hours
    D. Between 5 and 10 hours
    E. More than 10 hours
3. About how many hours of instruction do you receive each week in English excluding Literature?
    A. I do not take English
    B. Less than 2 hours
    C. Between 2 and 5 hours
    D. Between 5 and 10 hours
    E. More than 10 hours
4. About how many different magazines does you family receive each month?
    A. None
    B. 1 magazine
    C. 2 magazines
    D. 3 magazines
    E. 4 or more magazines

Directions: Indicate on your answer card how frequently you like to read books or magazine articles dealing with: (Indicate one response for each row)

5. Adventure A. Not at all B. Occasionally C. Frequently

6.	History and Biography	A. Not at all	B. Occasionally	C. Frequently
7.	Science/Technical Reading	A. Not at all	B. Occasionally	C. Frequently
8.	Science Fiction	A. Not at all	B. Occasionally	C. Frequently
9.	Travel and Exploration	A. Not at all	B. Occasionally	C. Frequently
10.	Current Events	A. Not at all	B. Occasionally	C. Frequently
11.	Mystery and Detective	A. Not at all	B. Occasionally	C. Frequently
12.	Art	A. Not at all	B. Occasionally	C. Frequently
13.	Politics and Economics	A. Not at all	B. Occasionally	C. Frequently
14.	Philosophy and Religion	A. Not at all	B. Occasionally	C. Frequently
15.	Sports	A. Not at all	B. Occasionally	C. Frequently
16.	Love Stories	A. Not at all	B. Occasionally	C. Frequently
17.	Humor	A. Not at all	B. Occasionally	C. Frequently
18.	Myths and Legends	A. Not at all	B. Occasionally	C. Frequently
19.	Poetry	A. Not at all	B. Occasionally	C. Frequently
20.	Movie and Music Celebrities	A. Not at all	B. Occasionally	C. Frequently
21.	School Stories	A. Not at all	B. Occasionally	C. Frequently

22. Does your family receive a *daily* newspaper?
    A. Yes
    B. No, but I often read one, most days anyway
    C. No, and I do not read one

Directions: Mark on your answer card the parts of the newspaper that you usually read.

23. News
    A. Usually read this part
    B. Do not usually read this part
24. Sports
    A. Usually read this part
    B. Do not usually read this part
25. Comment and editorials about the news
    A. Usually read this part
    B. Do not usually read this part
26. Articles about the home (cooking, clothes, and decorating)
    A. Usually read this part
    B. Do not usually read this part
27. Movie, play, and television reviews
    A. Usually read this part
    B. Do not usually read this part
28. Music and art reviews
    A. Usually read this part
    B. Do not usually read this part
29. Book reviews
    A. Usually read this part
    B. Do not usually read this part
30. Comic sections and humor
    A. Usually read this part
    B. Do not usually read this part

31. Science articles
    A. Usually read this part
    B. Do not usually read this part
32. About how many hours a *week* do you usually spend listening to the radio or watching television?
    A. None
    B. Between 1 and 5 hours
    C. Between 5 and 10 hours
    D. Between 10 and 20 hours
    E. More than 20 hours
33. About how many times a month do you usually go to the movies or a show?
    A. 0 times
    B. 1–2 times
    C. 3–5 times
    D. 6–10 times
    E. 11 or more times
34. From the following list mark on your answer card the *one* type of TV or radio program you like best.
    A. Programs teaching some subject
    B. Quiz programs
    C. Programs on history, travel, nature, scientific developments, etc.
    D. Variety programs
    E. News programs
    F. Shows that tell a story
    G. Sports
    H. Music

[Population II students continue with the Reading Speed Practice Test (same as Population I—Section P) and the Reading Speed Test (same as Population I—Section J).]

Population IV—Reading Comprehension

Directions: This is a test to see how well you understand what you read. The test is made up of four stories with a number of questions on each. Read the first story and then answer the questions on it. Then go on to the second story and so on until you come to the end of Section C.

Each test item starts with a statement or question and then gives you four endings or answers. Pick the *best* ending or answer and blacken the space corresponding to the answer you have chosen on your answer card.

You may read the stories over again as much as you need to. Try each question in turn. If you don't know the answer, you may leave it and go on to the next. Come back to it later if you have time.

You should answer even if you aren't sure; however, do not guess blindly.

When you finish one story go ahead to the next. Keep working until you reach the end of Section C. If there is time left, go back and try to do any that you skipped the first time through.

[Similar directions obtain for Section D following.]

Section C—Reading Comprehension Test

Passage 1: During the present century, scientific study of man's surroundings and

experiences is commonly accepted as the desirable way to determine the truth or falsity of statements, opinions, or beliefs.

This was not always so. During past centuries there was much reliance on authority. The opinions expressed by persons in positions of authority and the written statements in approved documents were frequently accepted and taught as oracles of truth. Those questioning the accuracy or validity of these opinions were in grave danger. Many persons, later recognized as leading contributors to the progress of mankind, suffered torture, imprisonment, and even death because they dared to question beliefs or opinions which we now see to have been demonstrably false.

The scientific method emphasized the inductive rather than the deductive approach to the solution of problems. The inductive method is characterized by observations, measurement, definition, enumeration, classification, and the formulation of conclusions on the basis of objective evidence. On the other hand, authoritarianism utilized the deductive method, namely, reasoning from the major premise to a conclusion, without necessarily making explicit all the elements involved in the final statement or opinion.

In one sense authority and scientific method may be harmonized. It is conceivable that the major premises of an authority may be based on scientific studies which have produced demonstrable truths. Deductions made with these truths as major premises and with strict adherence to the principles of logic should be valid.

1. Scientific method has been encouraged
   - A. for many centuries.
   - B. continuously.
   - *C. recently.
   - D. by authoritarians.
2. "Authority" as used in line 5 of the above article, means
   - *A. traditional wisdom.
   - B. scientific analysis.
   - C. inductively determined fact.
   - D. superstition.
3. Deductive reasoning assumes the accuracy of
   - A. conclusions.
   - *B. major premises.
   - C. facts.
   - D. a logical synthesis.
4. A central idea of the preceding article is that
   - A. deductive methods are hard to apply.
   - B. science and logic are opposed.
   - C. facts and opinions are about the same thing.
   - *D. scientific and authoritarian methods may complement each other.
5. Which of the four paragraphs is primarily concerned with comparison?
   - A. 1st
   - B. 2nd
   - *C. 3rd
   - D. 4th
6. Which of the four paragraphs is primarily concerned with synthesis?
   - A. 1st
   - B. 2nd
   - C. 3rd
   - *D. 4th

Passage 2: All plays must leave out certain facts of life and aspects of human nature; there is not room in a play for everything, nor does the nature of the form demand that there should be. We do not, for instance, ask for the element of probability in a farce, or in a light comedy. We do not expect restraint and common-sense in a tragedy; for if they were present there would be no tragedy. In brief, we expect an author to leave bits of human nature out—to present an artificial concoction rather than a true-to-life one. We ask only that he make this artifice seem plausible; that is to say, if he does his work well, we should not notice the elements he has left out—and the more we *do* notice their absence, the more unimpressed we are by his skill. Of course, we value most highly the dramatists who manage to include the maximum of elements with the minimum of clumsiness; for we reckon, quite correctly, that a play is both more plausible and more interesting if the characters involved in it are full, like Brutus, of mixed elements and must struggle inside themselves to reach conclusions and perform big actions: this is at least partly what we mean when we say that Shakespeare embraces all humanity, or that characters are "whole" persons rather than bitty cut-outs. When things are made too plain-sailing for characters—when they represent only ambition, or only pride, or only greed, and have no opposites to these in them to make decisions hard for them—then we may accept them as absurd or melodramatic characters, or even as a certain sort of stylized particulars, but we cannot respond to them as fully as we can to Macbeth, or Lear, or Tartuffe, or the people in Chekhov. They are doubtful to us because they have no doubt themselves.

7. Plays must
   A. imitate life.
   *B. select from life.
   C. exercise restraint.
   D. use common sense.
8. A play designed to produce laughter is expected to portray incidents which are
   A. natural.
   *B. improbable.
   C. true-to-life.
   D. elementary.
9. The conviction which a play carries depends on our not being aware of
   A. its plausibility.
   B. the maximum of elements.
   *C. the things left out.
   D. the mixture of characters.
10. Characters appear absurd or doubtful to us if they contain no
    A. ambition.
    B. style.
    *C. inconsistencies.
    D. stylized peculiarities.
11. The writer of this passage is trying to present
    *A. a point of view in literary criticism.
    B. a closely reasoned argument.
    C. a description of a set of facts.
    D. a theory of human nature.
12. Which of the following sentences in the paragraph first introduces an important new idea?

A. 3rd
B. 4th
*C. 5th
D. 6th

13. What support does the author provide for the position that he is taking?
*A. Examples and illustrations.
B. Common knowledge.
C. A series of investigations.
D. Essentially no support.

Passage 3: The history of the discovery of the Peking man was exciting despite the fact that this time it was not a more or less accidental discovery but the result of systematic excavation. In 1921 some Swedish and American paleontologists were excavating on a hill near Peking. The hill was called the Hill of Chicken Bones because bones of small birds had been found on it. Then a man walked by, watched the strange work going on and said that if the gentlemen were looking for the bones of dragons, he knew a place where they could find much bigger bones.

The man took them to a limestone cave which was about one kilometer away. In the summers of 1921 and 1923 a lot of bones of big mammalia were found there. They were typical of the Quaternary fauna. Along with the bones some sharp-edged pieces of quartz were found which could be thought to be elementary tools. The professor who led the research work could not give up his idea that in the light of these discoveries it would be possible to find remains of primitive men on the continent of Asia. In 1927 excavations were started in the cave of Tsou-kou-tien but the whole summer passed without any discoveries. Finally, three days before winter stopped the field-work one tooth of a man was found.

It was the molar tooth of a lower jaw. After examining it very carefully one of the researchers came to the conclusion that the tooth did not belong to any known type of man, nor to any living race. On the basis of this one tooth the researcher named not only a new species of man but also a new race, the Chinese man.

14. On the basis of what find was the important conclusion described in the passage made?
*A. A molar tooth.
B. Some tools.
C. Some bones of birds.
D. Some pieces of quartz.

15. The conclusion that the research worker reached is based upon the assumption that one can
A. describe a human culture from the tools it used.
B. find human remains by digging in the right places.
C. make faster progress searching systematically than hunting blindly.
*D. accurately reconstruct a complete creature from one small part.

16. The basic pattern of the organization of this passage is
A. logical.
*B. chronological.
C. from general to specific.
D. from specific to general.

17. What led the scientist to believe that he would find evidence of primitive men on the continent of Asia?
A. A molar tooth from a lower jaw.

*B. Mammalian bones and sharp-edged pieces of quartz.
C. The statement of the Chinese about dragon bones.
D. The excavations at the Hill of Chicken Bones.

18. The author of this passage is primarily interested in
A. telling an entertaining story.
*B. describing a series of events.
C. influencing the beliefs and feelings of his readers.
D. proving a scientific theory.

19. The bones that the investigators first found when they started digging in the cave had come from early forms of animals like
*A. horses, bears, or tigers.
B. dragons.
C. small birds.
D. dinosaurs.

Passage 4: Commodities and services to which no flow of money payments corresponds may be divided into three groups. The first consists of goods and services received in barter, such as farm rents paid in kind. From the point of view of the nation's productivity or welfare the omission of such bartered goods would obviously understate the total performance of the economic system. The second group consists of goods and services received gratis. The difficulty here is not the lack of monetary form but the absence of any productive service rendered by the recipient. In such cases, since no production of new economic goods takes place, it appears advisable to exclude the goods from the national income total. If an individual received charity or a gift this is but a loss on the part of the donor (whose income has been recorded fully elsewhere), and to count the incomes of both donor and recipient involves either double counting or the consideration of the charity or gift recipient as a producer of service to the donor, an obviously far-fetched conception. The problem becomes more complicated when such free flow of goods (or money) is directed not from individuals but from the business system, either directly or through such social agencies as the government or charitable foundations. Such free goods, whether in the form of money or of commodities, must obviously be counted in somewhere in the national total. While their statistical estimate is difficult, their analytical and quantitative importance is appreciable and likely to grow in the future. The third type of commodities and services for which there is no corresponding money payment comprises those produced and consumed within the individual economic unit. Here the main problem lies in the segregation of economic from non-economic activity, since only a rigid line between the two will enable one to include in or exclude from national income such items as commodities produced as a hobby, services or durable goods used in the household or personal services of housewives and other members of the family. But there is no hard and fast rule by which economic activity can be distinguished from social and individual life in general. The importance of economic motives, the regularity of the activity, the relative proportion in which the resulting commodities and services appear on the market—all have to be considered. No doubt appears as to the propriety of including in national income commodities regularly produced and consumed within the household when they form part of a larger total destined for the market. Similarly, the estimate of national income should include net services from houses owned and inhabited; but there is considerable doubt as to the propriety of including net services of other durable goods. Finally, there is a general agreement among students of the problem

as to the exclusion of housewives' services and services of other members of the family, because these activities are motivated largely by non-economic considerations and form much more of a part of life in general than of professional economic activity proper.

20. In return for his services a minister receives (1) a modest cash salary, (2) the use of a house, and (3) the use of an automobile. According to the passage, which of these should be considered part of the national income?
    *A. Only (1) and (2).
    B. Only (1) and (3).
    C. Only (2) and (3).
    D. Only (1).

21. The "free flow of goods" refers to
    A. trade not encumbered with tariffs or restrictions.
    *B. gifts for which no return is received.
    C. the surplus profits of the business sytem.
    D. the easy exchange of goods for money.

22. Why would the work of a housewife in her home *not* be considered part of the national income?
    A. No money is paid for the work.
    *B. The motivation underlying the work is not economic.
    C. No tangible product is involved.
    D. The product is totally consumed within the home.

23. Why might a charitable contribution from a business concern be counted in the national income even though one from an individual would not?
    A. The business concern is directly involved in the nation's productive system.
    *B. The contribution from the business has not been counted anywhere else.
    C. The contribution from the business concern is a necessary part of the cost of doing business.
    D. A business is more likely to make a contribution to an institution or organization which must count it as income.

24. On what grounds would the fee of a concert violinist be considered part of the national income while the receipts of a violinist playing on the street corner for *nickels* would not?
    A. The different motivations of the violinists in the two cases.
    *B. The different motivations of those who provide the money in the two cases.
    C. The different amounts of money involved in the two cases.
    D. The fact that the street violinist is untrained

25. A business man makes fine furniture in his spare time as a hobby, using some in his house and giving some to friends. On what basis would his product be *excluded* from the national income?
    A. Part of the product is consumed within the home.
    B. No cash transaction is involved.
    *C. The motive for the production is not economic.
    D. The cost of the furniture has already been counted as national income.

Section D—Reading Comprehension Test

Passage 5: All day long we had been motoring towards Fez, and as we drew nearer to it, but at a distance still of some thirty or forty miles, we began to feel the emanation of a great and ancient city, in the same way that you have the identical

experience when approaching the environs of Rome or Paris or London or Peking, some essence, indefinable but not to be confounded with any other, asserting itself in the atmosphere. Unlike a European city, Fez has no outer suburbs, and is enclosed by its own walls; but even the brown-faced, brown-legged, shaven-headed peasants, who in their dazzling white clothes worked in the sepia-colored fields—hardly so much fields as wide territories—seemed to carry some unidentifiable echo of tradition, perhaps of Pharaoh's Egypt. It was not until darkness had enveloped them that we arrived before the majestic crenellated walls of the city, and outside the gates the strings of camels, the story-tellers and snakecharmers and lank ebony minstrels, hung with cowrie-shells, from the dark interior of the continent, and the jostling, wondering crowds that surround them by daylight had taken their departure.

1. How were the boundaries of a field in which a peasant was working marked off?
   A. The boundaries were marked by palm trees.
   B. The boundaries were marked by thick hedges.
   C. There was a fence around each field.
   *D. There were no clear boundaries.
2. What was it that first informed the travellers that they were approaching Fez?
   A. The city walls.
   B. The sepia-colored fields.
   *C. An indefinable feeling.
   D. The tradition of Pharaoh's Egypt.
3. When the travellers were confronted by the city walls they appeared to be
   A. intimidated.
   *B. impressed.
   C. disinterested.
   D. astounded.
4. The travellers arrived at the city walls when the jostling crowds
   A. were starting to gather.
   B. were at their peak.
   C. were getting ready to leave.
   *D. had gone.
5. The author's primary purpose in this passage is to
   *A. provide a vivid and interesting description.
   B. inform the reader about important facts.
   C. change the reader's attitudes.
   D. build up a feeling of suspense.
6. In the paragraph that follows this one it is likely that the author will
   A. tell about the construction of the city's walls.
   *B. describe their entrance into the city itself.
   C. tell about the early history of the city.
   D. describe the home life of the peasants.
7. The author's style is best described as
   A. simple and direct.
   B. forceful.
   C. dull and prosaic.
   *D. flowery and elaborate.

Passage 6: The meeting and overtaking of vehicles on rails, either moving or stationary, for which tracks have been laid on the road, is done on the right.

All the same, these movements can be carried out on the left if they cannot be done on the right owing to the narrowness of the space to pass in or to the presence of a parked or stationary vehicle or any other fixed obstacle and provided that this does not endanger road users coming from the opposite direction. Overtaking can also be done on the left in one way streets, when this is justified by the demands of the traffic.

When a vehicle on rails has stopped to allow passengers to enter or alight, whether the track is actually laid on the road or not, the driver may only pass the vehicle on the track, either on the left or on the right, at a reduced speed. Except at those places where the traffic is controlled by a policeman or by traffic lights, the driver driving on the side where the passengers are entering or alighting from the stationary vehicle on the rails must allow them either to reach this vehicle or to pass on to the pavement at the side. He must be prepared to stop if necessary for this purpose.

8. The audience for whom this passage was written was primarily
   *A. drivers of motor vehicles.
   B. motormen of street-cars.
   C. passengers getting on and off street-cars.
   D. policemen directing traffic.
9. The primary purpose of this passage was to provide a set of instructions for
   A. safe driving.
   B. passing on the left.
   *C. passing vehicles on rails.
   D. protecting the safety of pedestrians.
10. Under which of these circumstances was passing on the left usually permissible? I. one-way street. II. cars parked too close on right. III. at a traffic light. IV. street-car stationary.
   *A. I & II
   B. I & III
   C. I & IV
   D. II & IV
11. When a street-car has stopped to let passengers off, a driver must always
   A. stop.
   *B. slow down.
   C. pass on the right.
   D. keep a distance of at least 10 feet.
12. The instruction that applies whether the street-car tracks are laid on or beside the road has to do with
   *A. letting passengers off.
   B. the side on which to pass.
   C. stopping at traffic lights.
   D. endangering traffic coming the other way.
13. The relation of the second paragraph to the statement made in the first paragraph is that it
   A. states more fully the conditions under which the rule holds.
   B. develops the reasons for the rule.
   *C. indicates exceptions to the general rule.
   D. applies the rule in one special situation.
14. The material in this passage was organized by the author primarily so that the reader would know

A. why he is to act in a certain way.
B. who is responsible in the situation.
C. what is likely to happen next.
*D. what actions he is to take.

Passage 7: Effective thinking, while starting with logic, goes further so as to include certain broad mental skills. It includes the understanding of complex and fluid situations, in dealing with which logical methods are inadequate as mental tools. Of course, thinking must never violate the laws of logic, but it may use techniques beyond those of exact mathematical reasoning. In the fields of social study and history, and in the problems of daily life, there are large areas where evidence is incomplete and may never be completed. Sometimes the evidence may be also untrustworthy; but if the situation is practical, a decision must be made. The scientist has been habituated to deal with properties which can be abstracted from their total background and with variables which are few and well defined. Consequently, where the facts are unique and unpredictable, where the variables are numerous and their interactions too complicated for precise calculation, the scientist is apt to throw up his hands in despair and perhaps turn the situation over to the sentimentalists or the mystic. But surely he would be wrong to ignore both this type of problem and this type of thinking; for the methods of logical thinking do not exhaust the resources of reason. In coping with complex and fluid situations we need thinking which is relational and which searches for cross bearings between areas; this is thinking in a context. By its use it is possible to reach an understanding of historical and social materials and of human relations, although not with the same degree of precision as in the case of simpler materials and recurring events. As Aristotle says, "It is the mark of an educated man to expect no more exactness than the subject permits."

15. The author believes complex practical problems can be solved
A. by the use of logic alone.
B. only if the rules of logic are disregarded.
C. only if all the facts are known.
*D. only by using both logical and non-logical reasoning.

16. The author implies that mathematical reasoning is likely to be employed with advantage
A. when the situations to be dealt with are complex and fluid.
B. in history, social study, and the problems of everyday life.
*C. in stable, clear-cut situations, where there are few unknown or varying factors.
D. in dealing with practical problems.

17. The author believes scientists should widen their field of work by undertaking problems that are
*A. less specific and less precise.
B. more exact.
C. more abstract.
D. less complex and fluid.

18. "Relational thinking" is principally of advantage in
*A. providing working solutions to problems for which the calculation of exact answers is impossible.
B. dealing with problems for which only an approximate answer is desired
C. providing exact answers to ill-defined problems.
D. dealing with problems related in thought.

19. The author's purpose in this passage is primarily to present
    *A. a philosophical point of view.
    B. some important information.
    C. a piece of effective literary composition.
    D. a cleverly conceived argument.
20. In speaking of "thinking which is relational," (line 22) the author is contrasting this with
    *A. exact mathematical reasoning.
    B. thinking that violates the laws of logic.
    C. intuitive approaches to human problems.
    D. Aristotle's point of view.
21. That one should expect no more exactness than the subject permits is endorsed by
    A. only the author.
    B. only Aristotle.
    *C. the author and Aristotle.
    D. the author and traditional scientists.

Passage 8: The next 100 years were destined to be the most fertile in the history of horology, because the foundations of nearly all the basic inventions appeared during this period. Robert Hooke, one of the great pioneers, is credited with the invention of the anchor escapement about 1666. This consisted of an anchor-shaped piece of steel, the points of which spanned several teeth of a sharp-toothed gear wheel. When this anchor rocked on a properly placed pivot, it allowed one tooth of the gear wheel to escape at each side of its swing, and the act of blocking the opposite tooth gave sufficient impulse to keep the pendulum swinging. This was a great step in advance in accuracy, and the majority of existing clocks were changed from foliot and verge to anchor escapement. Hooke contributed greatly to the mathematics of horology, and also invented the cylinder escapement which has endured to modern times, becoming the standard escapement for low-priced Swiss watches. As early as 1525, one John Leck of Prague had made a clock having a soft metal fusee. It remained, however, for Hooke to investigate scientifically the various properties of springs which included the fusee. He reinvented and described the fusee, which consisted of cutting a spiral on a conical drum attached to the first wheel. On this was wound first a piece of catgut and later a small chain, the other end of which was fastened to the cylindrical periphery of the barrel containing the main spring. The spiral was arranged so that the large diameter of the spiral was opposite the run-down position of the main spring. This meant that when the watch was fully wound the main spring, through its chain, was pulling on the small diameter of the spiral and, as the mechanism ran down and the tension of the main spring decreased, it was continually pulling on a larger radius, thereby tending to maintain a more constant power on the train and thus helping the mechanism to run at a more constant rate.

George Graham perfected Hooke's anchor escapement by broadening the face of the teeth on the anchor from Hooke's sharp points. This slight broadening prevented the escapement from swinging a little too far at each end of its swing, which can be detected in anchor escapement clocks by the tendency of the seconds hand to recoil slightly at each second. Graham's addition of the slight flats prevented this tendency; the deadbeat escapement did not have this overtravel and is the most common in modern use. This slight change was one of the most important steps in perfecting the time-keeping capabilities of the clock mechanism. Graham realized

that temperature would change the length of the pendulum and hence have considerable influence on the rate of a clock. It has since been shown that 1 degree F. change in temperature of the steel rod of a seconds pendulum is equivalent to approximately four seconds in 24 hours, a brass rod, about twice as much; and a glass one, about half as much. Knowing roughly these facts, Graham suggested a compound pendulum composed of steel and brass, and so arranged that the different rates of expansion would offset one another. He abandoned this however, in favor of the mercury reservoir which he invented in 1711 and which, up to the invention of invar and some of the newer alloys that have practically zero coefficient of expansion under heat, was the most accurate pendulum known.

22. A grooved cone of metal is used in
    *A. a fusee.
    B. a cylinder escapement.
    C. a foliot.
    D. an improved pendulum.
23. The kind of escapement most common in modern clocks is called
    A. anchor escapement.
    B. cylindrical escapement.
    *C. deadbeat escapement.
    D. compound escapement.
24. Which of the following types of escapements is probably most economical to construct?
    A. Compound.
    B. Deadbeat.
    *C. Cylinder.
    D. Single.
25. The "next 100 years" referred to in the first sentence began about
    A. 1525
    B. 1575
    C. 1600
    *D. 1650
26. One could tell whether an old grandfather clock had an anchor escapement or a deadbeat escapement by
    *A. observing the movement of the second hand.
    B. checking to see whether it has a compound pendulum.
    C. examining the points of the teeth on the first wheel.
    D. inspecting the mainspring for the presence of a catgut attachment.
27. The most accurate pendulum available in the 18th century was the
    *A. foliot and verge.
    B. compound pendulum.
    C. mercury reservoir pendulum.
    D. invar alloy pendulum.
28. In a compound pendulum, the length of the brass rods is about
    *A. half that of the steel rods.
    B. the same as that of the steel rods.
    C. one and a half that of the steel rods.
    D. twice that of the steel rods.
29. The gain from using a cone with a spiral cut into it was that this made possible
    A. compensation for the effect of temperature changes.

B. adjustment for the changing size of the expanding spring.
C. replacement of the pendulum with a spring.
*D. nearly uniform power as the spring ran down.

[Population IV students continue with the Student Questionnaire—General and Mother Tongue (same as Population II—Section E).]

Populations II and IV—Literature

Directions for Sections X, Y, Z, and W: On the next pages there is a short story. Read the story carefully and thoughtfully before going on to the questions about it.

Read the questions carefully and answer them as thoughtfully and honestly as you can. The questions are preceded by instructions which you should follow. All your answers should be made on your answer card. You will not need any other paper on which to write.

If you have any questions, ask your teacher.

Section X—The Use of Force

They were new patients to me, all I had was the name, Olson. Please come down as soon as you can, my daughter is very sick.

When I arrived I was met by the mother, a big startled looking woman, very clean and apologetic who merely said, Is this the doctor? and let me in. In the back, she added. You must excuse us, doctor, we have her in the kitchen where it is warm. It is very damp here sometimes.

The child was fully dressed and sitting on her father's lap near the kitchen table. He tried to get up, but I motioned for him not to bother, took off my overcoat and started to look things over. I could see that they were all very nervous, eyeing me up and down distrustfully. As often, in such cases, they weren't telling me more than they had to, it was up to me to tell them; that's why they were spending three dollars on me.

The child was fairly eating me up with her cold, steady eyes, and no expression to her face whatever. She did not move and seemed, inwardly, quiet, an unusually attractive little thing, and as strong as a heifer in appearance. But her face was flushed, she was breathing rapidly, and I realized that she had a high fever. She had magnificent blond hair, in profusion. One of those picture children often reproduced in advertising leaflets and the photogravure sections of the Sunday papers.

She's had a fever for three days, began the father and we don't know what it comes from. My wife has given her things, you know, like people do, but it don't do no good. And there's been a lot of sickness around. So we tho't you'd better look her over and tell us what is the matter.

As doctors often do I took a trial shot at it as a point of departure. Has she had a sore throat?

Both parents answered me together, No . . . No, she says her throat don't hurt her.

Does your throat hurt you? added the mother to the child. But the little girl's expression didn't change nor did she move her eyes from my face.

Have you looked?

I tried to, said the mother, but I couldn't see.

As it happens we had been having a number of cases of diphtheria in the school to which this child went during that month and we were all, quite apparently, thinking of that, though no one had as yet spoken of the thing.

Well, I said, suppose we take a look at the throat first. I smiled in my best professional manner and asking for the child's first name I said, come on, Mathilda, open your mouth and let's take a look at your throat.

Nothing doing.

Aw, come on, I coaxed, just open your mouth wide and let me take a look. Look, I said opening both hands wide, I haven't anything in my hands. Just open up and let me see.

Such a nice man, put in the mother. Look how kind he is to you. Come on, do what he tells you to. He won't hurt you.

At that I ground my teeth in disgust. If only they wouldn't use the word "hurt" I might be able to get somewhere. But I did not allow myself to be hurried or disturbed but speaking quietly and slowly I approached the child again.

As I moved my chair a little nearer suddenly with one catlike movement both her hands clawed instinctively for my eyes and she almost reached them too. In fact she knocked my glasses flying and they fell, though unbroken, several feet away from me on the kitchen floor.

Both the mother and father almost turned themselves inside out in embarrassment and apology. You bad girl, said the mother, taking her and shaking her by one arm. Look what you've done. The nice man . . .

For heaven's sake, I broke in. Don't call me a nice man to her. I'm here to look at her throat on the chance that she might have diphtheria and possibly die of it. But that's nothing to her. Look here, I said to the child, we're going to look at your throat. You're old enough to understand what I'm saying. Will you open it now by yourself or shall we have to open it for you?

Not a move. Even her expression hadn't changed. Her breaths however were coming faster and faster. Then the battle began. I had to do it. I had to have a throat culture for her own protection. But first I told the parents that it was entirely up to them. I explained the danger but said that I would not insist on a throat examination so long as they would take the responsibility.

If you don't do what the doctor says you'll have to go to the hospital, the mother admonished her severely.

Oh yeah? I had to smile to myself. After all, I had already fallen in love with the savage brat, the parents were contemptible to me. In the ensuing struggle they grew more and more abject, crushed, exhausted while she surely rose to magnificent heights of insane fury of effort bred of her terror of me.

The father tried his best, and he was a big man but the fact that she was his daughter, his shame at her behavior and his dread of hurting her made him release her just at the critical moment several times when I had almost achieved success, till I wanted to kill him. But his dread also that she might have diphtheria made him tell me to go on, go on though he himself was almost fainting, while the mother moved back and forth behind us raising and lowering her hands in an agony of apprehension.

Put her in front of you on your lap, I ordered, and hold both her wrists.

But as soon as he did the child let out a scream. Don't, you're hurting me.

Let go of my hands. Let them go I tell you. Then she shrieked terrifyingly, hysterically. Stop it! Stop it! You're killing me!

Do you think she can stand it, doctor! said the mother.

You get out, said the husband to his wife. Do you want her to die of diphtheria?

Come on now, hold her, I said.

Then I grasped the child's head with my left hand and tried to get the wooden tongue depressor between her teeth. She fought, with clenched teeth, desperately! But now I also had grown furious—at a child. I tried to hold myself down but I couldn't. I know how to expose a throat for inspection. And I did my best. When finally I got the wooden spatula behind the last teeth and just the point of it into the mouth cavity, she opened up for an instant but before I could see anything she came down again and gripping the wooden blade between her molars she reduced it to splinters before I could get it out again.

Aren't you ashamed, the mother yelled at her. Aren't you ashamed to act like that in front of the doctor?

Get me a smooth-handled spoon of some sort, I told the mother. We're going through with this. The child's mouth was already bleeding. Her tongue was cut and she was screaming in wild hysterical shrieks. Perhaps I should have desisted and come back in an hour or more. No doubt it would have been better. But I had seen at least two children lying dead in bed of neglect in such cases, and feeling that I must get a diagnosis now or never I went at it again. But the worst of it was that I too had got beyond reason. I could have torn the child apart in my own fury and enjoyed it. It was a pleasure to attack her. My face was burning with it.

The damned little brat must be protected against her own idiocy, one says to one's self at such time. Others must be protected against her. It is a social necessity. And all these things are true. But a blind fury, a feeling of adult shame, bred of a longing for muscular release are the operatives. One goes on to the end.

In a final unreasoning assault I overpowered the child's neck and jaws. I forced the heavy silver spoon back of her teeth and down her throat till she gagged. And there it was—both tonsils covered with membrane. She had fought valiantly to keep me from knowing her secret. She had been hiding that sore throat for three days at least and lying to her parents in order to escape just such an outcome as this.

Now truly she *was* furious. She had been on the defensive before but now she attacked. Tried to get off her father's lap and fly at me while tears of defeat blinded her eyes.

William Carlos Williams—American

Part I

Directions: Answer the following questions as carefully and as honestly as you can.

Here is a number of questions that might be asked about "The Use of Force." Some of these are more important than others. Read the list carefully and choose the *five* (5) questions that you think are the most important questions to ask about "The Use of Force." In the section marked X-Y-Z on your Answer Card 8 blacken in the oval marked A next to the number of the five questions you have chosen. After

you have done that blacken in the ovals marked B for the other fifteen questions.

1. Is there a lesson to be learned from "The Use of Force"?
2. Is "The Use of Force" well written?
3. How does the story build up? How is it organized?
4. Why type of story is "The Use of Force"? Is it like any other story I know?
5. How can we explain the way the people behave in the story?
6. Are any of the characters in "The Use of Force" like people I know?
7. Has the writer used words or sentences differently from the way people usually write?
8. What happens in "The Use of Force"?
9. Is "The Use of Force" about important things? Is it a trivial or a serious work?
10. Does the story tell me anything about people or ideas in general?
11. How is the way of telling the story related to what "The Use of Force" is about?
12. Is this a proper subject for a story?
13. Is there anything in "The Use of Force" that has a hidden meaning?
14. When was the story written? What is the historical background of the story and its writer? Does the fact that the author is American tell me anything about the story?
15. What kinds of metaphors (or comparisons), images (or references to things outside the story) or other writer's devices are used in "The Use of Force"?
16. Does the story succeed in getting me involved in the situation?
17. What does "The Use of Force" tell us about people I know?
18. What emotions does "The Use of Force" arouse in me?
19. Is there any one part of "The Use of Force" that explains the whole story?
20. What is the writer's opinion of, or attitude toward, the people in "The Use of Force"?

Part II

Directions: Each of the questions or incomplete statements below is followed by four suggested answers. One of these answers or completions is the *best* answer to the problem posed in the question. That is, of the four answers, one makes the most sense in the light of the story you have read. Some of the questions are more important than others. These questions are marked with a star (*). Answer all the questions, but pay particular attention to the starred questions. Read each question carefully, choose your answer and indicate your choice in the appropriate space on your answer card.

*21. Why had Mathilda been lying to her parents?
   A. She was afraid they would scold her for being rude.
   B. She wanted her parents to think she was sick.
   C. She did not want to go to school.
   *D. She was afraid they would discover she had diphtheria.

22. Which of the following most clearly indicates Mathilda's feelings when the doctor arrives?
   *A. "cold, steady eyes" (line 13)
   B. "as strong as a heifer" (line 15)
   C. "her face was flushed" (lines 16)
   D. "she had a high fever" (lines 16 to 17)

*23. Which of the following best indicated the difference between Mathilda and her parents in their early reaction to the doctor?
   *A. She is defiant, they are scared.
   B. She is angry, they are sad.
   C. She is excited, they are calm.
   D. She is hopeful, they are despairing.

*24. Which of the following is the best explanation of why Mathilda clawed for the doctor's eyes (lines 48 to 51)?
   A. She wanted to hurt the doctor.
   B. She wanted to show her parents how brave she was.
   C. She wanted to show the doctor she was healthy.
   *D. She wanted to keep the doctor from seeing her throat.

25. What caused Mathilda to shriek (line 80)?
   A. She was scared by her mother.
   *B. She was held by her father.
   C. She was hurt by the doctor.
   D. She had shown the doctor her throat.

26. Which of the following best describes the mother at the beginning of the story (lines 1 to 29)?
   A. She is calm and loving.
   B. She is careless and neglectful.
   *C. She is nervous and foolish.
   D. She is angry and cruel.

The following questions refer to the mother's attitude towards Mathilda. You are to choose one of the four terms or words below as the answer to each question. You may use each term once, more than once, or not at all.

A. Coaxing
B. Questioning
C. Scolding
D. Threatening

27. Which one of the words mentioned best describes the mother's speech to Mathilda in line 28?
   A, *B, C, or D

28. Which one of the words mentioned best describes the mother's speech to Mathilda in lines 52 to 54?
   A, B, *C, or D

29. Which one of the words mentioned best describes the mother's speech to Mathilda in lines 95 to 96?
   A, B, *C, or D

*30. What change in the mother do her five speeches to Mathilda show?
   *A. That she becomes more emotional.
   B. That she becomes less worried about diphtheria.
   C. That she becomes more sure of herself.
   D. That she becomes less frightened of the doctor.

*31. What is the doctor's reaction to the mother's speeches to Mathilda that are given in lines 42 to 70?
   A. He is angry because she shouts at Mathilda.
   *B. He is disgusted because she says the wrong things.
   C. He is sad because she seems so ignorant.
   D. He is fearful because she seems a careless woman.

*32. What is the doctor's reaction to the mother's last speech (lines 95 to 96)?
A. He is angry that she has interrupted him.
B. He is disgusted at her being ashamed.
C. He tries to change the subject so that Mathilda will not notice that her mother yelled at her.
*D. He hardly pays any attention to what she says because he is so intent on what he is doing.

33. What is the doctor's first impression of Mathilda?
A. That she is healthy.
B. That she is very young.
*C. That she is beautiful.
D. That she is intelligent.

34. What is meant by "my best professional manner" (lines 35 to 36)?
A. Skillfully.
B. Curiously.
C. Severely and slowly.
*D. Gently and reassuringly.

*35. When does the doctor first speak threateningly to Mathilda?
A. At lines 36 to 37.
*B. At lines 57 to 59.
C. At line 78.
D. At line 85.

*36. Which of the following best describes the doctor's changes in attitude toward Mathilda?
A. He becomes more childlike.
*B. He becomes more emotional and violent.
C. He becomes more worried and depressed.
D. He becomes more professional.

*37. Which of the following is the best summary of what the doctor says in lines 106 to 110?
A. Despite what our laws tell us we should do, we should act according to our beliefs.
B. Despite what society says we should do, the individual must be prepared to assert his own personality.
C. Despite the reasons that others may have for giving up, a person is forced by pride to complete what he begins.
*D. Despite any reason we may give for doing something, we really do it for emotional satisfaction.

*38. There are four inferences to be drawn from lines 67 to 70. Which of these inferences is most important to the development of the story as a whole?
A. These lines show how much the doctor is sorry for the parents.
B. These lines show how uncontrollable Mathilda is.
*C. These lines show that the doctor's interest in Mathilda has become personal and not professional.
D. These lines show that the doctor thinks that Mathilda is a beautiful child and not merely a sick one.

*39. The doctor and Mathilda have several changing relationships in the course of the story. Which of the following is NOT one of the main relationships?
A. Doctor and patient.

*B. Parent and child.
C. Two people at war.
D. A winner and a loser.

N. We would like to know how you personally compare this story to other stories you have read. If you think it is one of the best stories you have read, rate it +3. If you think it is one of the worst you have read, rate it −3.

Here is a scale:

one of the best	good	fairly good	fairly poor	poor	one of the worst
+3	+2	+1	−1	−2	−3

Mark the number of the rating you would give this story on your answer card in space N.

Section Y—I See You Never

The soft knock came at the kitchen door, and when Mrs. O'Brian opened it, there on the back porch were her best tenant, Mr. Ramirez, and two police officers, one on each side of him. Mr. Ramirez just stood there, walled in and small.

"Why, Mr. Ramirez!" said Mrs. O'Brian.

Mr. Ramirez was overcome. He did not seem to have words to explain.

He had arrived at Mrs. O'Brian's rooming house more than two years earlier and had lived there ever since. He had come by bus from Mexico City to San Diego and had then gone up to Los Angeles. There he had found the clean little room, with glossy blue linoleum, and pictures and calendars on the flowered walls and Mrs. O'Brian as the strict but kindly landlady. During the war, he had worked at the airplane factory and made parts for the planes that flew off somewhere, and even now, after the war, he still held this job. From the first, he had made big money. He saved some of it, and he got drunk only once a week—a privilege that, to Mrs. O'Brian's way of thinking, every good workingman deserved, unquestioned and unreprimanded.

Inside Mrs. O'Brian's kitchen, pies were baking in the oven. Soon the pies would come out with complexions like Mr. Ramirez's, brown and shiny and crisp, with slits in them for the air almost like the slits of Mr. Ramirez's dark eyes. The kitchen smelled good. The policemen leaned forward, lured by the odor. Mr. Ramirez gazed at his feet, as if they had carried him into all this trouble.

"What happened, Mr. Ramirez?" asked Mrs. O'Brian.

Behind Mrs. O'Brian, as he lifted his eyes, Mr. Ramirez saw the long table, laid with clean white linen and set with a platter, cool, shining glasses, a water pitcher with ice cubes floating inside it, a bowl of fresh potato salad, and one of bananas and oranges, cubed and sugared. At this table sat Mrs. O'Brian's children—her three grown sons, eating and conversing, and her two younger daughters, who were staring at the policemen as they ate.

"I have been here thirty months," said Mr. Ramirez quietly, looking at Mrs. O'Brian's plump hands.

"That's six months too long," said one policeman. "He only had a temporary visa. We've just got around to looking for him."

Soon after Mr. Ramirez had arrived, he bought a radio for his little room; evenings, he turned it up very loud and enjoyed it. And he had bought a wristwatch and enjoyed that, too. And on many nights he had walked silent streets and seen the bright clothes in the windows and bought some of them, and he had seen the jewels and bought some of them for his few lady friends. And he had gone to picture shows five nights a week for a while. Then, also, he had ridden the streetcars—all night some nights—smelling the electricity, his dark eyes moving over the advertisements, feeling the wheels rumble under him, watching the little sleeping houses and big hotels slip by. Besides that, he had gone to large restaurants, where he had eaten many-coursedinners, and to the opera and the theatre. And he had bought a car, which later, when he forgot to pay for it, the dealer had driven off angrily from in front of the rooming house.

"So here I am," said Mr. Ramirez now, "to tell you that I must give up my room, Mrs. O'Brian. I come to get my baggage and clothes and go with these men."

"Back to Mexico?"

"Yes, to Lagos. That is a little town north of Mexico City."

"I'm sorry, Mr. Ramirez."

"I'm packed," said Mr. Ramirez hoarsely, blinking his dark eyes rapidly and moving his hands helplessly before him. The policemen did not touch him. There was no necessity for that. "Here is the key, Mrs. O'Brian," Mr. Ramirez said, "I have my bag already."

Mrs. O'Brian, for the first time, noticed a suitcase standing behind him on the porch.

Mr. Ramirez looked in again at the huge kitchen, at the bright silver cutlery and the young people eating and the shining waxed floor. He turned and looked for a long moment at the apartment house next door, rising up three stories, high and beautiful. He looked at the balconies and fire escapes and back-porch stairs, at the lines of laundry snapping in the wind.

"You've been a good tenant," said Mrs. O'Brian.

"Thank you, thank you, Mrs. O'Brian," he said softly. He closed his eyes.

Mrs. O'Brian stood holding the door half open. One of her sons, behind her, said that her dinner was getting cold, but she shook her head at him and turned back to Mr. Ramirez. She remembered a visit she had once made to some Mexican border towns—the hot days, the endless crickets leaping and falling or lying dead and brittle like the small cigars in the shop windows, and the canals taking river water out to the farms, the dirt roads, the scorched fields, the little adobe houses, the bleached clothes, the eroded landscape. She remembered the silent towns, the warm beer, the hot, thick foods each day. She remembered the slow, dragging horses and the parched jack rabbits on the road. She remembered the iron mountains and the dusty valleys and the ocean beaches that spread hundreds of miles with no sound but the waves—no cars, no buildings, nothing.

"I'm sure sorry, Mr. Ramirez," she said.

"I don't want to go back, Mrs. O'Brian," he said weakly. "I like it here. I want to stay here. I've worked. I've got money. I look all right, don't I? And I don't want to go back!"

"I'm sorry, Mr. Ramirez," she said. "I wish there was something I could do."

"Mrs. O'Brian!" he cried suddenly, tears rolling out from under his eyelids. He reached out his hands and took her hand fervently, shaking it, wringing it, holding to it. "Mrs. O'Brian, I see you never, I see you never!"

The policemen smiled at this, but Mr. Ramirez did not notice it, and they stopped smiling very soon.

"Goodbye, Mrs. O'Brian. You have been good to me. Oh, goodbye, Mrs. O'Brian. I see you never!"

The policemen waited for Mr. Ramirez to turn, pick up his suitcase, and walk away. They they followed him, tipping their caps to Mrs. O'Brain. She watched them go down the porch steps. Then she shut the door quietly and went slowly back to her chair at the table. She pulled the chair out and sat down. She picked up the shining knife and fork and started once more upon her steak.

"Hurry up, Mom," said one of the sons. "It'll be cold."

Mrs. O'Brian took one bite and chewed on it for a long, slow time, then she stared at the closed door. She laid down her knife and fork.

"What's wrong, Ma?" asked her son.

"I just realized," said Mrs. O'Brian—she put her hand to her face—"I'll never see Mr. Ramirez again."

Ray Bradbury—American

Part I

Directions: Answer the following questions as carefully and honestly as you can.

Here is a number of questions that might be asked about "I See You Never." Some of these are more important than others. Read the list carefully and choose the *five* (5) questions that you think are the most important questions to ask about "I See You Never." In the Section marked X-Y-Z on your Answer Card 8 blacken in the oval marked A next to the numbers of the five questions you have chosen. After you have done that blacken in the ovals marked B for the other fifteen questions.

1. How is the way of telling "I See You Never" related to what the story is about?
2. Is this a proper subject for a story?
3. Is there anything in "I See You Never" that has a hidden meaning?
4. When was the story written? What is the historical background of the story and its writer. Does the fact that the author is American tell me anything about the story?
5. What kinds of metaphors (or comparisons), and images (or references to things outside the story) or other writer's devices are used in "I See You Never"?
6. Does the story succeed in getting me involved in the situation?
7. What does "I See You Never" tell me about the people I know?
8. What emotions does "I See You Never" arouse in me?
9. Is there any one part of "I See You Never" that explains the whole story?
10. What is the writer's opinion of or attitude toward the people in "I See You Never"?

11. Does the story tell me anything about people or ideas in general?
12. Is "I See You Never" about important things? Is it a trivial or a serious work?
13. What happens in "I See You Never"?
14. Has the writer used words and sentences differently from the way people usually write?
15. Are any of the characters in "I See You Never" like people I know?
16. How can we explain the way people behave in this story?
17. What type of story is "I See You Never"? Is it like any other story I know?
18. How does the story build up? How is it organized?
19. Is "I See You Never" well written?
20. Is there a lesson to be learned from "I See You Never"?

Part II

Directions: Each of the questions or incomplete statements below is followed by four suggested answers. One of these answers or completions is the *best* answer to the problem posed in the question. That is, of the four answers, one makes the most sense in the light of the story you have read. Some of the questions are more important than others. These questions are marked with a star (*). Answer all the questions, but pay particular attention to the starred questions. Read each question carefully, choose your answer and indicate your choice in the appropriate space on your answer card.

21. What reason did Mr. Ramirez give for wanting to stay in Los Angeles?
    *A. He liked Los Angeles.
    B. He liked Mrs. O'Brian.
    C. He worked hard.
    D. He had lost his car.
22. Why did Mr. Ramirez say he should be allowed to stay in Los Angeles? I. He worked hard. II. He had money. III. He looked respectable.
    A. I only
    B. III only
    C. I and II only
    *D. I, II and III
*23. Which of the following best explains why Mrs. O'Brian did not try to keep the police from sending Mr. Ramirez back to Mexico?
    A. She was used to people coming and going.
    *B. She respected the law.
    C. She thought Mexico was lovely.
    D. She was afraid of her son's reaction.
24. Which of the following best describes Mrs. O'Brian's house?
    A. Large and comfortable.
    *B. Clean and shining.
    C. Poor but hospitable.
    D. Neat and unfriendly.
*25. Which of the following best explains why Mr. Ramirez walked the streets and rode on the streetcars?
    A. He was tired of Mrs. O'Brian's little room.
    B. He wanted to take his mind off his troubles.

*C. He was fascinated by all the new things in Los Angeles.
D. He was making so much money he did not know how to spend it all.

*26. Which of the following best explains why Mr. Ramirez bought a radio and a wristwatch?
A. These things showed others he was rich.
*B. These were things he could not get in Mexico.
C. These were things he could not really afford.
D. These were things that would make Mrs. O'Brian happy.

27. Three of the following contrasts between Mexico and Los Angeles are referred to in the story. Which is NOT referred to?
A. A contrast in food.
B. A contrast in landscape.
*C. A contrast in people.
D. A contrast in motion.

*28. Which of the following is most clearly implied by the word "nothing" (line 77)?
A. No people.
B. No fear.
C. No police.
*D. No life.

29. Which of the following most clearly supports the description of Mrs. O'Brian as strict but kindly?
*A. "a privilege that, to Mrs. O'Brian's way of thinking, every good working man deserved, unquestioned and unreprimanded" (lines 15 to 16).
B. "the long table, laid with clean white linen and set with a platter, cool, shining glasses" (lines 24 and 25).
C. "the huge kitchen, the bright silver cutlery and the young people eating and the shining waxed floor" (lines 59 and 60).
D. "She picked up the shining knife and fork and started once more upon her steak" (lines 95 and 96).

30. Why did Mrs. O'Brian say, at this particular moment, "I'm sure sorry, Mr. Ramirez" (line 78)?
A. She did not approve of what the police were doing.
B. She did not want to lose a good tenant.
*C. She knew what Mr. Ramirez was going back to.
D. She was in a hurry to get back to her dinner.

31. The policemen smiled (line 87). Why did the policemen stop smiling (line 88)?
*A. They realized how serious he was.
B. They decided they did not want him to go.
C. They did not want to seem too friendly.
D. They saw that he was ready to go with them.

*32. Which of the following best summarizes Mrs. O'Brian's attitude toward Mr. Ramirez in the early part of the story—up to line 77?
A. She had grown to love him and think of him as a part of her family.
*B. She liked him as a tenant but did not have any strong feelings about him one way or another.
C. She did not like him because he was a foreigner.
D. She liked him but was afraid he might quarrel with her sons.

*33. Which of the following comes nearest to what the writer thought of Mr. Ramirez?

A. A foreigner who should try to keep the laws of the country.
*B. The unfortunate victim of official restrictions.
C. A well-behaved tenant for Mrs. O'Brian whom she would find hard to replace.
D. A simple-minded man who would in the long run be happier in his own country.

34. Who made the "soft knock" (line 1)?
*A. Mr. Ramirez.
B. Mrs. O'Brian.
C. The policeman.
D. Mrs. O'Brian's son.

*35. Which of the following best summarizes the sort of man Mr. Ramirez is?
A. Nervous and crafty.
B. Ambitious and industrious.
C. Sociable and popular.
*D. Shy and gentle.

*36. What is Mrs. O'Brian's first reaction to Mr. Ramirez's saying "I see you never"?
A. She cries.
B. She says good-bye.
C. She sits down.
*D. None of the above.

*37. In the context of the story as a whole, what is the significance of the last paragraph (lines 101 and 102)?
A. It shows that Mrs. O'Brian found Mr. Ramirez's English hard to understand.
*B. It shows that Mrs. O'Brian finally understood what Mr. Ramirez's departure meant.
C. It shows that Mrs. O'Brian hoped Mr. Ramirez would come back to her house again.
D. It shows that Mrs. O'Brian had been so frightened by the police that she could do nothing.

*38. Which of the following best summarizes the main point of the story?
A. A person's problems understanding the law.
B. A person's love of his country and its people.
C. A person's decision whether to follow the law or her own heart.
*D. A person's discovery about the true nature of loss.

N. We would like to know how you personally compare this story to other stories you have read. If you think it is one of the best stories you have read, rate it +3. If you think it is one of the worst you have read, rate it −3.

Here is a scale:

one of the best	good	fairly good	fairly poor	poor	one of the worst
+3	+2	+1	−1	−2	−3

Mark the number of the rating you would give this story on your answer card in space N.

Section Z—The Man by the Fountain

As always, John Deweck sat by the fountain.

The spring sun loomed up out of the seething foam. The children honoured the memories of heroic admirals. Their galleons and cutters tacked to and fro across the wide pond. Nursemaids and grandmothers glanced anxiously at frocks and trousers. Over the wide world the fountain sang, thrusting a quivering plume of water at the scudding clouds. Liquid pattered noisily into bowls of marble.

John Deweck sat on his usual bench, speaking to no one. There were a few rules he stubbornly clung to. People spoke so much ill of each other. He no longer listened to their chatter. He had eyes now only for students and soldiers, for young girls and children. Young people fascinated his old carcass. He knew a great deal and had forgotten even more. He craved for youth and approached death's kingdom with reluctant steps.

One by one the frequenters of the fountain left the park. It was time for lunch. John smiled without quite knowing why. Now that he was alone, it seemed to him that he was the head park keeper. It was Thursday. The day on which his wife always used to serve him veal-steak with a delicious sour sauce and potatoes as round as marbles. She had been able to work miracles with a potato. Since her death he had fallen into irregular eating habits. Three slices of bread and jam in the morning. At midday, often not even a bite. Round about five, some lumpy porridge with rusks and some fruit. Usually a sour apple. Sour apples, he believed kept the mental juices clean and preserved the understanding.

He sat now alone with the violence of the fountain.

Perhaps some little boy would turn up? He longed for a serious conversation. Eyes that were still keen swept the avenue that led to the outskirts of the town. Far off in the distance, as in a dream, the little boy came into view. The youngster came tearing up to him, flopped down on the bench and gazed spellbound at the rippling surface of the pond and at the dragons letting the water flow over their green breasts.

"Hello, young man," said John Deweck solemnly.

The child stared at him but said nothing.

"Isn't it your dinner-time?"

"I'm not hungry," said the boy. "I eat once a day. Raw buffalo-meat, as I roam the prairie on my bronco."

"Well, now," said John Deweck, "Well now . . . who might you be then?"

The boy looked up at him full of pride.

"I am the last of the Mohicans. I lost my friend—the paleface. He was caught in an ambush. But I scented danger. Now I wander alone through the wood and valley . . ."

"Where are your feathers?" asked old John sternly.

The child gazed at him with lively interest. Tiny flames flickered in the golden eyes. He flushed with excitement.

"I don't wear feathers in enemy country," he said in a whisper. "But still, I'm on the warpath. I've no war paint on but I've dug up the hatchet. I am the last of my tribe. Are you my friend or foe?"

"What a thing to ask! My name is John. I have always been the foe of the

buffaloes and the friend of the Indians. I made a blood-pact with Winnetou. Now I am too old for the hunt. Against whom have you dug up the hatchet?"

"Against the tribe of grown-ups," answered the boy. "They threaten my hunting-grounds and my freedom. They don't understand a thing. How can an Indian live in stuffy school-buildings?"

"Of course he can't," said John. "Though a paleface myself, I'm all for freedom, too. But still, I think school is necessary . . ."

The youngster threw him a piercing look.

"Perhaps you're a spy," he said thoughtfully. "The enemy is cunning."

John Deweck gave a high-pitched laugh.

"Nonsense. Take a look around. We're quite alone here. No, I'm not a member of the tribe of grown-ups."

"How strange. So old, yet still a good Indian."

The old man gave a loud sniff. He held his hand out to the young brave.

"Peace," he said, "and many scalps."

"I'll tell you my adventure," said the boy, "provided you can keep a secret."

"Even if I was bound to the torture-post I wouldn't breathe a word."

"This morning I had to hunt for buffalo. As you know, the time has come. Besides, I'm looking for a squaw for my new wigwam. I was creeping out of the kitchen when Dad caught me by the hair. He walloped me for not being ready for school. I didn't make a sound. Only cunning could save me. Meekly I let myself be led to Hook Nose."

"Who is Hook Nose?"

"The school chief," replied the boy. "He's not strong but he's terribly cunning. He laughed like a wild horse and spoke of giving me lines. At ten o'clock, during break, I sneaked out at the gate. I ran as fast as I could . . . . I don't want to go home again. My homeland is the prairie. Tonight I'm looking for a boat and tomorrow I'll be sailing across the seas."

John Deweck looked at the fountain. Impetuously as life itself it leapt up towards the light of the boundless sky. Cherubs spattered with water, blew on their conches as if to warn of impending danger.

A wrinkle creased the aged forehead.

"It's not going to be an easy plan," sighed John Deweck.

"I *must* get a boat," said the boy stubbornly. "You've got to help me."

Heavy clouds drifted towards the spring sun. The birds were silent in the pruned trees.

"First come and eat in my wigwam," faltered John Deweck.

"I'm not hungry."

"You can't refuse bread and salt . . ."

The boy thought this over.

"Your mouth speaks the truth," he said. "I must set out on my long journey free from hunger. But I shan't eat meat."

"Bread and salt, O warrior . . ."

The boy trotted at the old man's side, looking neither left nor right. He thought of the wild scents of the prairie. He had met an old buffalo-hunter who gave him invaluable tips.

They stepped into the police station. The door closed behind them with a bang. The boy looked about him and understood.

He sat down on a bench and freely volunteered information to a fat man with a ruddy complexion. His head sank on his chest. He did not even glance at John Deweck.

The car arrived shortly afterwards. The father stepped out and thanked the old man. The boy took his place in the car. Suddenly, he turned to the buffalo-hunter.

"You belong to the tribe of grown-ups," he said. "You have betrayed my confidence. I will pay for it at the torture post. I despise you."

He spat on the ground.

"What did he say?" asked the father.

"That you ought to make him happy," said John Deweck.

Father and son vanished in a cloud of dust.

"The youth of today," grunted the inspector.

Slowly the old man paced through the streets of the little town.

He was never seen again at the fountain.

George Hebbelinck—Belgian

Part I

Directions: Answer the following questions as carefully and as honestly as you can.

Here is a number of questions that might be asked about "The Man by the Fountain." Some of these are more important than others. Read the list carefully and choose the *five* (5) questions that you think are the most important questions to ask about "The Man by the Fountain." In the Section marked X-Y-Z on your Answer Card 8 blacken in the oval marked A next to the numbers of the five questions you have chosen. After you have done that blacken in the ovals marked B for the other fifteen questions.

1. What is the writer's opinion of or attitude toward the people in "The Man by the Fountain"?
2. Is there any one part of "The Man by the Fountain" that explains the whole story?
3. What emotions does "The Man by the Fountain" arouse in me?
4. What does "The Man by the Fountain" tell us about people I know?
5. Does "The Man by the Fountain" succeed in getting me involved in the situation?
6. What metaphors (or comparisons), images (or references to things outside the story), or other writer's devices are used in "The Man by the Fountain"?
7. When was "The Man by the Fountain" written? What is the historical background of the story and the writer? Does the fact that the author is Belgian tell me anything about the story?
8. Is there anything in "The Man by the Fountain" that has a hidden meaning?
9. Is this a proper subject for a story?
10. How is the way of telling the story related to what "The Man by the Fountain" is about?
11. Is there a lesson to be learned from "The Man by the Fountain"?

12. Is "The Man by the Fountain" well written?
13. How does the story build up? How is it organized?
14. What type of story is "The Man by the Fountain"? Is it like any other story I know?
15. How can we explain the way people behave in "The Man by the Fountain"?
16. Are any of the characters in "The Man by the Fountain" like people I know?
17. Has the writer used words or sentences differently from the way people usually write?
18. What happens in "The Man by the Fountain"?
19. Is "The Man by the Fountain" about important things? Is it a trivial or serious work?
20. Does the story tell me anything about people or ideas in general?

Part II

Directions: Each of the questions or incomplete statements below is followed by four suggested answers. One of these answers is the *best* answer to the problem posed in the question. That is, of the four answers, one makes the most sense in the light of the story you have read. Some of the questions are more important than others. These questions are marked with a star (*). Answer all the questions, but pay particular attention to the starred questions. Read each question carefully, choose your answer and indicate your choice in the appropriate space on your answer card.

21. Which of the following statements best describes John Deweck's life before the story opens?
    A. He had gone to live with his children after his wife died.
    B. He had tried to forget his wife after she died.
    *C. He had changed his regular habits after his wife died.
    D. He became temporarily insane when his wife died.
22. Which of the following is the best explanation of why John Deweck "longed for a serious conversation" (lines 25 and 26)?
    A. He wanted to learn about the history of the Fountain.
    *B. He wanted to talk to someone who was youthful.
    C. He wanted to explain his ideas about children.
    D. He wanted to talk to someone who remembered his wife.
*23. In lines 1 to 23 John Deweck has many feelings about what he sees at the fountain. Which of the following best summarizes his feelings?
    *A. He feels that he is separated from other people and that he has lost his youth.
    B. He feels that his heroic past has been forgotten by others.
    C. He feels that the park is unattractive when there are people in it.
    D. He feels that he can be understood better by people his own age.
*24. There are three relationships between John Deweck and the boy shown in lines 31 to 64. Which of the following relationships is NOT shown?
    A. Adult and youth.
    *B. Father and son.
    C. Co-conspirators.
    D. Players in the same game.
25. John Deweck's relationship with the boy steadily progresses from lines 31 to 64. Which of the following phrases interrupts that progression?

A. "young man" (line 31).
B. "Where are your feathers?" (line 41).
*C. "I think school is necessary" (line 54).
D. "We're quite alone here." (line 58).

*26. In lines 31 to 75 the boy's feelings toward John Deweck change. This change can be described in three ways. Indicate the one that is NOT appropriate.
A. From distance to closeness.
*B. From dislike to toleration.
C. From interest to involvement.
D. From caution to frankness.

27. Which of the following is true of the boy?
*A. He is a truant from school who thinks his father is stern.
B. He is the son of a famous soldier.
C. He is looking for his mother who has left his father.
D. He is an Indian who has been taken from his homeland.

*28. Lines 76 to 79 may be said to be one of the points at which the direction of the story turns. Which of the following best summarizes the turn?
A. The boy decides that he must go back to school.
B. John Deweck decides to make the boy uneasy.
C. The boy realizes that John Deweck is not his friend.
*D. John Deweck realizes that he must take the boy to his parents.

29. Three of the following are contained in the description of the fountain in lines 2 to 7. Choose the one that is NOT.
*A. It is intermittent.
B. It is pleasurable.
C. It is active.
D. It is widespreading.

30. Which of the following words in line 24 is unexpected, given the earlier description of John Deweck and the fountain?
A. "sat"
B. "now"
C. "alone"
*D. "violence"

31. Which of the following words or phrases in lines 76 to 78 presents a different aspect of the fountain from what was described in lines 2 to 7?
A. "Impetuously as life itself" (line 76)
B. "it leapt up" (line 76)
C. "spattered with water" (line 77)
*D. "impending danger" (line 78)

*32. Which of the following interpretations of the sentences describing the fountain (lines 76 to 78) is most consistent with the story as a whole?
A. The fountain reminds John Deweck of his dead wife.
B. The fountain reminds John Deweck of life abroad.
*C. The fountain reminds John Deweck of the way a young person sees life.
D. The fountain reminds John Deweck of the dangers in the boy's sea voyage.

*33. Which of the following statements about the significance of the fountain is most consistent with the story as a whole?
A. It suggests the happiness that we lose when a loved one dies.
B. It suggests the mystery of life and the pleasure of old age.

C. It suggests the perils that face people who travel.
*D. It suggests the liveliness of the world and of youth.

34. In the paragraph beginning on line 91, which of the following would be an accurate description of the boy's feelings about John Deweck?
*A. Trust and admiration.
B. Nervousness and fear.
C. Loathing and detestation.
D. Tolerance and approval.

*35. Which of the following words or phrases most clearly reinforce(s) the change that comes after line 79? I. "Heavy clouds drifted" (line 82) II. "The birds were silent" (line 82) III. "looking neither left nor right" (line 91).
A. I only
B. III only
*C. I and II only
D. II and III only

*36. Several things are indicated when we read the two paragraphs about the trip to the police station (lines 94 to 98). Choose the one that is NOT indicated.
*A. That the boy understood that he really did want to stay at home.
B. That the boy had come to believe that the old man sympathized with him.
C. That the boy realized that John Deweck was like other grown-ups.
D. That what happened to the boy came as a sudden surprise.

*37. Which of the following statements best describes the relationship of the two paragraphs (lines 94 to 98) to each other?
A. The first describes events before the story began, the second describes the results of those events.
B. The second explains the boy's actions that are described in the first.
C. The first describes the old man, and the second describes the boy.
*D. The second presents a reality that contradicts the dream of the first.

38. Three events happen at the end of the story. Choose the one that does NOT actually happen.
A. The boy tells the police who he is and what he had done.
*B. John Deweck apologizes to the boy.
C. The boy tells John Deweck what he understands.
D. John Deweck tries to tell the father what Deweck has learned.

*39. There are three possible explanations of the last sentence in the context of the story as a whole. Choose the explanation that is NOT possible.
A. John Deweck realized that he would always be lonely.
B. John Deweck felt sorry for what he had done.
*C. John Deweck wanted to live with the boy and his family.
D. John Deweck realized that he could not recapture his youth.

N. We would like to know how you personally would compare this story to other stories you have read. If you think it is one of the best stories you have read, rate it +3. If you think it is one of the worst stories you have read, rate it −3.

Here is a scale:

one of the best	good	fairly good	fairly poor	poor	one of the worst
+3	+2	+1	−1	−2	−3

Mark the number of the rating you would give this story on your answer card in space N.

Section W—The Sea

Poor boy. He had very big ears, and when he would turn to the window, they would become scarlet. Poor boy. He was bent over, yellow. The man who cured came by behind his glasses. "The sea," he said "the sea, the sea". Everyone began to pack suitcases and speak of the sea. They were in a great hurry. The boy figured that the sea was like being inside a tremendous seashell full of echoes and chants and voices that would call from afar with a long echo. He thought that the sea was tall and green.

But when he arrived at the sea, he stood still. His skin, how strange it was there. "Mother," he said because he felt ashamed, "I want to see how high the sea will come on me."

He who thought that the sea was tall and green, saw it white like the head of a beer—tickling him, cold on the tips of his toes.

"I am going to see how far the sea will come on me." And he walked, he walked, he walked and the sea, what a strange thing!—grew and became blue, violet. It came up to his knees. Then to his waist, to his chest, to his lips, to his eyes. Then into his ears there came a long echo and the voices that call from afar. And in his eyes all the color. Ah, yes, at last the sea was true. It was one great, immense seashell. The sea truly was tall and green.

But those on the shore didn't understand anything about anything. Above they began to cry and scream and were saying "What a pity, Lord, what a great pity."

Ana Maria Matute—Spanish

Part I

Directions: Answer the following questions as carefully and as honestly as you can.

Here is a number of questions that might be asked about "The Sea". Some of these are more important than others. Read the list carefully and choose the *five* (5) questions that you think are the most important questions to ask about "The Sea". In the Section marked W on your Answer Card 8 blacken in the oval marked A next to the numbers of the five questions you have chosen. After you have done that blacken in the ovals marked B for the other fifteen questions.

1. Is there any one part of "The Sea" that explains the whole story?
2. What does "The Sea" tell us about people I know?
3. What metaphors (or comparisons), images (or references to things outside the story) or other writer's devices are used in "The Sea"?
4. Is there anything in "The Sea" that has a hidden meaning?
5. How is the way of telling the story related to what "The Sea" is about?
6. Is "The Sea" well written?
7. What type of story is "The Sea"? Is it like any other story I know?
8. Are any of the characters in "The Sea" like people I know?
9. What happens in "The Sea"?
10. Does "The Sea" tell me anything about people or ideas in general?
11. Is "The Sea" about important things? Is it a trivial or a serious work?
12. Has the writer used words or sentences differently from the way people usually write?
13. How can we explain the way people behave in "The Sea"?

14. How does the story build up? How is it organized?
15. Is there a lesson to be learned from "The Sea"?
16. Is this a proper subject for a story?
17. When was "The Sea" written? What is the historical background of the story and the writer? Does the fact that the author is Spanish tell me anything about the story?
18. Does "The Sea" succeed in getting me involved in the situation?
19. What emotions does "The Sea" arouse in me?
20. What is the writer's opinion of, or attitude toward the people in "The Sea"?

Part II

Directions: Each of the questions or incomplete statements below is followed by four suggested answers. One of these answers or completions is the *best* answer to the problem posed in the question. That is, of the four answers, one makes the most sense in the light of the story you have read. Some of the questions are more important than others. These questions are marked with a star (*). Answer all the questions, but pay particular attention to the starred questions. Read each question carefully, choose your answer and indicate your choice in the appropriate space on your answer card.

21. Which of the following do the first two sentences indicate about the boy?
    *A. That he was unattractive to look at.
    B. That he was afraid of the light.
    C. That he had no money.
    D. That he was very young.
22. What else do the first four sentences indicate about the boy?
    A. That he was friendly.
    *B. That he was sickly.
    C. That he was bad.
    D. That he was short.
23. Who is the man who cured?
    *A. A doctor.
    B. A priest.
    C. The boy's father.
    D. A friend.

*24. Which of the following inferences about the boy's past is supported by the first paragraph?
    A. He had been told that the sea was dangerous but beautiful because of its seashells.
    B. He had listened to the seashells and become sick from the habit of doing so.
    C. He had gone to the sea and brought back many seashells.
    *D. He had listened to a seashell and gotten the idea that the sea was beautiful and mysterious.

*25. Which of the following explains "but when he arrived at the sea, he stood still."
    A. The boy was surprised at the sound of the sea and was angry that the seashell was wrong.
    B. The boy was surprised at the feel of the sea air and wished he was back at home.
    *C. The boy was surprised at the sight of the sea and felt as if he did not belong there.

D. The boy was surprised that the sea had a beach, and he did not like to be tickled.

*26. Which of the following best explains why the boy first said, "I want to see how high the sea will come on me" (lines 9–10)?
*A. He wanted to cover his body with the sea.
B. He wanted to show how tall he was.
C. He wanted to trick his mother.
D. He wanted to show his mother he was not afraid of the sea.

27. As the boy walked into the sea, which of the following changes occurred?
A. A change in color, smell and feel.
B. A change in depth, feel and sound.
C. A change in sound, color and smell.
*D. A change in depth, sound and color.

*28. In the context of the story as a whole, which of the following best explains "Ah, yes, at last the sea was true." (line 17)?
*A. At last the sea was as he had imagined it would be.
B. At last the sea was as his mother said it would be.
C. At last the sea was as the man who cured said it would be.
D. At last the sea was gone, and he was back at home.

29. Which of the following is most likely to have said or thought "Poor boy" (sentence 1)?
A. The boy himself.
*B. The person telling the story.
C. The sea.
D. The "man who cured."

*30. When we read "The man who cured came by behind his glasses", we are being asked to look at the man as if we were which of the following?
A. The man himself.
B. The sea.
*C. The boy.
D. The people on the shore.

31. What did "those on the shore" see (line 19)?
A. The boy swimming.
*B. The boy drowning.
C. The boy walking on the beach.
D. The boy playing with seashells.

*32. Who is making the comment, "But those on the shore didn't understand anything about anything"?
A. The boy.
B. The person telling the story.
*C. Either of the above.
D. Neither of the above.

*33. What was it that those on the shore did not understand (line 19)?
A. Why the sea had changed.
B. Why they were on the shore.
C. Why they were screaming.
*D. Why the boy did what he did.

*34. Through whose eyes are we seeing the events of the story?
A. Those of one person — the boy.

B. Those of one person — a person telling the story, but not in the story.
*C. Those of two people — the boy and a person telling the story, but not in the story.
D. Those of several people — the boy, his mother, the people on the shore, and the man who cured.

35. Which of the following best describes the feelings of the boy in lines 13 to 18?
A. Uncertainty.
B. Anger.
*C. Joy.
D. Fear.

*36. There are many colors in this story: the boy is described as red and yellow, and the sea as green, blue, and violet. Which of the following comments about all the colors is most valid in the context of the story as a whole.
*A. The colors help us to understand that the sea represents everything that the boy is not but would like to be.
B. The colors help show us how the sea appears to be two different things for the boy and for his parents.
C. The colors help us see that the person telling the story does not like the sea as much as the boy does.
D. The colors help us see that the boy cannot understand the difference between what happens to him and what happens to the people on the shore.

*37. Which of the following best expresses the difference between what the boy thought and what the others thought at the end of the story?
A. The boy was ashamed to have lost a dream, and the others pitied his shame.
B. The boy was disappointed by what he saw, and the others were sorry that his vacation was spoiled.
C. The boy was glad to be cured, and the others were surprised at the change that had taken place.
*D. The boy was content that his dream was fulfilled, and the others were sorry at his death.

M. We would like to know how you personally would compare this story to other stories you have read. If you think it is one of the best stories you have read, rate it +3. If you think it is one of the worst stories you have read, rate it -3.

Here is a scale:

one of the best	good	fairly good	fairly poor	poor	one of the worst
+3	+2	+1	-1	-2	-3

Mark the number of the rating you would give this story on your answer card in space M.

Section Q — Student Questionnaire — Literature

Directions: Indicate your answer to the following questions by marking the appropriate space on your answer card.

1. How many students are there in the class in which you study literature?
A. I do not study literature
B. Less than 20 students
C. 21-35 students

D. 36-50 students
E. 51 or more students

2. About how many hours of homework do you do each week in literature?
   A. I do not study literature
   B. Between 0 and 2 hours
   C. Between 2 and 5 hours
   D. Between 5 and 10 hours
   E. More than 10 hours
3. About how many hours of instruction do you receive each week in literature?
   A. I do not study literature
   B. Between 0 and 2 hours
   C. Between 2 and 5 hours
   D. Between 5 and 10 hours
   E. More than 10 hours
4. Including this year, how many years have you studied literature?
   A. I have never studied literature
   B. 1-2 years
   C. 3-4 years
   D. 5-6 years
   E. 7 or more years
5. What proportion of your time in your English class is devoted to literature as opposed to composition, language study, and grammar?
   A. I do not study literature
   B. Less than 25%
   C. 26-50%
   D. 51-75%
   E. 76% or more

Directions: For questions 6 through 10, mark on your answer card how often class time is devoted to studying each of the following:

6. Poetry
   A. I do not study literature
   B. Rarely or never
   C. Occasionally, but less than once a week
   D. Regularly, about once a week
   E. Several times a week
7. Drama
   A. I do not study literature
   B. Rarely or never
   C. Occasionally, but less than once a week
   D. Regularly, about once a week
   E. Several times a week
8. Prose Fiction
   A. I do not study literature
   B. Rarely or never
   C. Occasionally, but less than once a week
   D. Regularly, about once a week
   E. Several times a week
9. Prose non-fiction (essay, biography, and belles lettres)

A. I do not study literature
B. Rarely or never
C. Occasionally, but less than once a week
D. Regularly, about once a week
E. Several times a week

10. Mass Media (movies, television)
A. I do not study literature
B. Rarely or never
C. Occasionally, but less than once a week
D. Regularly, about once a week
E. Several times a week

Directions: Indicate your answer to the following questions by marking the appropriate space on your answer card.

11. Which of the following types of books is most frequently used in your literature classes? (Choose one)
A. I do not study literature
B. Anthologies
C. Individual editions for each work or author
D. Both anthologies and individual editions equally
E. Impossible to say what is most frequently used

12. To what extent do you have to write about literature? (Choose one)
A. I do not study literature
B. Never
C. One or two papers during the school year
D. About one paper per month
E. One or more papers per week

13. To what extent to you have to read literature aloud, either singly or in groups?
A. I do not study literature
B. Rarely or never
C. Occasionally
D. Frequently

14. To what extent do you have to recite passages of literature from memory?
A. I do not study literature
B. Rarely or never
C. Occasionally
D. Frequently

15. Do you take part in amateur or school dramatics in any way?
A. Yes
B. No

Directions: In the study of literature in general, students are asked to consider different kinds of questions. Some of them are more important to understanding literature than others. Read the list of questions below and *choose* the *five* (5) that you think are most important to your understanding of literary works in general. Indicate these five (5) by blackening the space A next to them on your answer card. When you have done this, blacken the space B for the fifteen (15) questions that you did not choose. (Answer even though you are not studying literature now.) We have used the word story in each question, but you may think of stories, poems, or plays.

16. Is there any one part of the story that explains the whole?

17. What does the story tell us about people I know?
18. What metaphors (or comparisons), images (or references to things outside the story) or other writer's devices are used in the story?
19. Is there anything in the story that has a hidden meaning?
20. How is the way of telling the story related to what is is about?
21. Is the story well written?
22. What type of story is this? Is it like any other story I know?
23. Are any of the characters in the story like people I know?
24. What happens in the story?
25. Does the story tell me anything about people or ideas in general?
26. Is the story about important things? Is it a trivial or a serious work?
27. Has the writer used words or sentences differently from the way people usually write?
28. How can we explain the way people behave in the story?
29. How does the story build up? How is it organized?
30. Is there a lesson to be learned from the story?
31. Is this a proper subject for a story?
32. When was the story written? What is the historical background of the story and the writer?
33. Does the story succeed in getting me involved in the situation?
34. What emotions does the story arouse in me?
35. What is the writer's opinion of, or attitude toward the people in the story?

Section R — Literature Attitude Scales (Transfer and Interest)

Directions: These questions are being put to pupils in several countries with different cultures. Their purpose is to find out what part books, films, etc. play in the lives of young people. This material is confidential, and will not be seen by anyone in your school.

Read each question carefully, select the one answer most appropriate for you, and mark it in the appropriate space on your answer card.

1. Have you done something you would not ordinarily have done because you read about it in a story, poem, or play? (For example, when you were younger have you dressed up as a pirate because you read a story about pirates?)
   A. Often.
   B. Occasionally.
   C. Once or twice.
   D. Never.
2. While you were reading a book have you thought of yourself as one of the people in it?
   A. Often.
   B. Occasionally.
   C. Once or twice.
   D. Never.
3. Have you compared a person you met in real life with people you have read about? (For instance, have you ever called a strong person Samson?).
   A. Often.

B. Occasionally.
C. Once or twice.
D. Never.

4. Have you been in a situation and asked yourself what some person in a story you read would have done in that situation?
   A. Often.
   B. Occasionally.
   C. Once or twice.
   D. Never.
5. When you read a novel or a story, do you imagine that what is happening in the story takes place in some town or city that you have seen?
   A. I have never done it.
   B. I have done it once or twice.
   C. I have done it occasionally.
   D. I have done it often.
6. Have you done something or gone somewhere, felt that this has happened before, and then realized that in fact it happened in a book you read?
   A. Never.
   B. Once or twice.
   C. Occasionally.
   D. Often.
7. When you read a story, how often do you imagine that the people in the story look like people you know?
   A. Often.
   B. Occasionally.
   C. Seldom.
   D. Never.
8. When you meet a new person, how often do you compare the person to someone you saw in a film?
   A. Often.
   B. Occasionally.
   C. Seldom.
   D. Never.
9. How often do you think that the people you are reading about in a story are real people and not simply people in a story?
   A. Never.
   B. Once or twice.
   C. Occasionally.
   D. Often.
10. When you read a story or a play, do you try to remember something that happened to you that is like what you are reading about? Do you say to yourself "Something like this happened to me once"?
    A. Never.
    B. Once or twice.
    C. Occasionally.
    D. Often.
11. How many books have you read for your own pleasure in the past year?
    A. None.
    B. Fewer than 5.
    C. 5 to 10.

D. More than 10.

12. During the past year, have you read any plays for your own pleasure?
    A. None.
    B. One or two.
    C. 3 to 5.
    D. More than 5.
13. During the past year, have you read any novels for your own pleasure?
    A. None.
    B. One or two.
    C. 3 to 5.
    D. More than 5.
14. During the past year, have you read any biographies for your own pleasure?
    A. None.
    B. One or two.
    C. 3 to 5.
    D. More than 5.
15. When you choose a story or novel to read, which one of the following is most likely to be the reason for your choice?
    A. Friends or parents recommend it.
    B. I have read other books by the same author.
    C. The title attracts me.
    D. I just choose any.
16. How often do you re-read novels, stories or plays?
    A. Never.
    B. Once or twice.
    C. Occasionally.
    D. Frequently.
17. Have you ever gone to a film because you read the story in a book?
    A. Often.
    B. Occasionally.
    C. Once or twice.
    D. Never.
18. Have you ever read a book because you saw the story in a film?
    A. Never.
    B. Once or twice.
    C. Occasionally.
    D. Frequently.
19. Have you ever read a book because you saw the story on television or heard the story on the radio?
    A. Often.
    B. Occasionally.
    C. Once or twice.
    D. Never.
20. After you have seen a play or film, would you want to read a criticism of the work?
    A. Often.
    B. Occasionally.
    C. Once or twice.
    D. Never.

Teacher Questionnaire

General Section

Directions: Please record the answers to the following questions in section AA on answer card 11. The responses should be made by blackening the appropriate oval with an ordinary pencil. Please give only *one* response to each question and erase all stray marks.

1. Sex:
   A. Male
   B. Female
2. Age:
   A. 27 or younger
   B. 28-37
   C. 38-47
   D. 48-57
   E. 58 or more
3. Did you major in science or English in college?
   A. Yes, in science
   B. Yes, in English
   C. No, in some other subject
   D. No degree
4. If your answer to question 3 was *yes*, are you now teaching
   A. your special subject only?
   B. your special subject *and* one or two other subjects?
   C. only subjects *other than* those for which you were trained to teach?
5. If your answer to question 3 was *no*, are you teaching
   A. a single subject?
   B. two or three subjects?
   C. most of the subjects in the curriculum?
6. How many years of full-time elementary and secondary education have you had?
   A. Less than 6 years
   B. Between 6 and 8 years
   C. Between 8 and 10 years
   D. Between 10 and 12 years
   E. More than 12 years
7. How many years of full-time education have you had beyond secondary school?
   A. 0 years
   B. Less than 2 years
   C. Between 2 and 3 years
   D. Between 3 and 4 years
   E. More than 4 years
8. How many years, including the present year, have you been teaching *altogether?*
   A. Less than 5 years
   B. Between 5 and 10 years
   C. Between 10 and 20 years
   D. Between 20 and 30 years
   E. More than 30 years
9. How many years, including the present year, have you been teaching altogether in *this* school?

A. Less than 5 years
B. Between 5 and 10 years
C. Between 10 and 20 years
D. Between 20 and 30 years
E. More than 30 years

10. About how many hours a week do you spend in preparing lessons?
A. Less than 3 hours
B. Between 3 and 6 hours
C. Between 6 and 10 hours
D. Between 10 and 15 hours
E. More than 15 years

11. About how many hours a week do you spend on marking papers and examinations?
A. Less than 3 hours
B. Between 3 and 6 hours
C. Between 6 and 10 hours
D. Between 10 and 15 hours
E. More than 15 hours

12. Are you a member of a *general* teachers' association or union?
A. Yes
B. No

13. Are you a member of a subject matter teaching association?
A. Yes
B. No

14. How often do you read periodicals or journals about teaching?
A. Regularly
B. Occasionally
C. Rarely

15. How often do you read periodicals or journals on a subject related to your teaching field?
A. Regularly
B. Occasionally
C. Rarely

16. During the last year, have you attended any conferences in education in an area related to your teaching field?
A. Yes
B. No

Directions: In questions 17 through 21, please indicate how often you use each of the following types of assessment in assessing your students' work. (Choose *one* response for *each* type.)

17. Standardized tests
A. Frequently
B. Occasionally
C. Rarely or never

18. Teacher-made essay tests
A. Frequently
B. Occasionally
C. Rarely or never

19. Teacher-made objective tests
    A. Frequently
    B. Occasionally
    C. Rarely or never
20. Performance on homework
    A. Frequently
    B. Occasionally
    C. Rarely or never
21. Performance on projects, term papers, etc.
    A. Frequently
    B. Occasionally
    C. Rarely or never

Directions: In questions 22 through 26, please indicate how important each of the following are in determining what you teach on a day-to-day basis. (Choose *one* response for *each* practice listed.)

22. What I think the students in my class will need when they leave school
    A. Very important
    B. Of some importance
    C. Of little importance
23. The curriculum or syllabus
    A. Very important
    B. Of some importance
    C. Of little importance
24. Prescribed textbook
    A. Very important
    B. Of some importance
    C. Of little importance
25. Standardized tests that the student will have to take
    A. Very important
    B. Of some importance
    C. Of little importance
26. What the students will need at the next grade or in their next course
    A. Very important
    B. Of some importance
    C. Of little importance

Directions: In questions 27 through 36, please indicate how often you use each of the following in your instruction. (Choose *one* response for *each* kind.)

27. Textbooks
    A. Often
    B. Sometimes
    C. Rarely or never
28. Printed drill material
    A. Often
    B. Sometimes
    C. Rarely or never
29. Individualized material (e.g., programmed instruction)
    A. Often

B. Sometimes
C. Rarely or never

30. Small group work
A. Often
B. Sometimes
C. Rarely or never

31. Individual tutoring or individual conferences with students
A. Often
B. Sometimes
C. Rarely or never

32. Audio-visual materials—TV, films, slides, radio, etc.
A. Often
B. Sometimes
C. Rarely or never

33. Field trips and special projects
A. Often
B. Sometimes
C. Rarely or never

34. Lectures
A. Often
B. Sometimes
C. Rarely or never

35. Questioning
A. Often
B. Sometimes
C. Rarely or never

36. Discussion
A. Often
B. Sometimes
C. Rarely or never

37. *Within a classroom,* teachers sometimes organize students into small instructional groups according to whether they are fast, medium, or slow learners. To what extent do you practice such *within class* grouping? (Choose one.)
A. Always or almost always
B. Frequently
C. Occasionally
D. Rarely or never

38. In which *one* of the following types of institutions did you receive most of your post-secondary school education (including teacher training)?
A. No training beyond high school
B. Normal School
C. Public college
D. Private college
E. Public university
F. Private university

Directions: The answer to question 39 is to be marked in the answer space for question 1 in Section DD at the bottom of the reverse side of your answer card.

39. What is your teaching load in this school?
    A. Full-time
    B. ¾—full-time
    C. ½—¼
    D. ¼—½
    E. Less than ¼ time

English Section

(To be answered by English teachers only.)

The answers to these questions should be recorded in Section CC of your answer card. Do *NOT* answer these questions if you do not teach English. All English teachers are requested to answer questions 1 through 21 even though in some cases a question may appear not to be applicable.

1. Do you primarily
    A. teach literature as a separate subject?
    B. teach literature as part of instruction in English?
    C. teach reading as a separate subject?
    D. teach reading as part of instruction in English?
    E. teach reading *and* literature as part of instruction in English?

Directions: In questions 2 through 6, please indicate how many weeks (full-time equivalent) of in-service teacher training you have received during the last 5 years in each of the following subjects. Please also include evening courses and other short in-service courses, counting 6 hours equal to one full-time day and 5 days equal to one full-time week.

2. In literature:
    A. 0 weeks
    B. Less than 2 weeks
    C. Between 2 and 4 weeks
    D. Between 4 and 9 weeks
    E. More than 9 weeks
3. In teaching skills of reading:
    A. 0 weeks
    B. Less than 2 weeks
    C. Between 2 and 4 weeks
    D. Between 4 and 9 weeks
    E. More than 9 weeks
4. In linguistics:
    A. 0 weeks
    B. Less than 2 weeks
    C. Between 2 and 4 weeks
    D. Between 4 and 9 weeks
    E. More than 9 weeks
5. In philology:
    A. 0 weeks
    B. Less than 2 weeks
    C. Between 2 and 4 weeks
    D. Between 4 and 9 weeks
    E. More than 9 weeks

6. In other areas of humanities:
   A. 0 weeks
   B. Less than 2 weeks
   C. Between 2 and 4 weeks
   D. Between 4 and 9 weeks
   E. More than 9 weeks
7. Do you schedule any periods in which students are allowed to spend time reading materials of their own choice?
   A. Yes
   B. No
8. How do your students obtain their reading textbooks?
   A. Buy their own
   B. Loaned to them
   C. Do not have one
9. Does each student have a dictionary exclusively for himself for use in class?
   A. Yes
   B. No
10. Is there a class library or bookcorner in the classroom in which you most often teach?
    A. Yes
    B. No
11. If your answer to question 10 was *yes*, indicate how many books there are in this classroom library or bookcorner.
    A. Less than 10
    B. Between 10 and 20
    C. Between 20 and 50
    D. Between 50 and 100
    E. More than 100
12. If your answer to question 10 was *yes*, indicate about how many books have been added in the last year.
    A. Less than 10
    B. Between 10 and 20
    C. Between 20 and 30
    D. Between 30 and 40
    E. More than 40
13. How were the textbooks used in your classroom generally chosen?
    A. None used
    B. By you
    C. By a local committee of teachers or administrators
    D. Other
14. About how many clock hours of pre-service training have you had in methods of teaching reading?
    A. None
    B. Between 1 and 10 hours
    C. More than 10 hours
15. Has a standardized reading test (i.e., one which refers students' scores to national or regional norms) been given to all children in your class during the last twelve months?

A. Yes
B. No

16. Do you give individual instruction in reading to children in your class?
A. Yes
B. No

17. Do you divide the class into groups for instruction in reading?
A. Yes
B. No

18. Do you often ask groups of students to read aloud?
A. Yes
B. No

19. Do you often read aloud to the students with the students just listening?
A. Yes
B. No

20. Do you often read aloud with the students following silently in their own texts?
A. Yes
B. No

21. Do you undertake any special work to improve the student's *rate* of reading?
A. Yes
B. No

Directions: If you specifically teach literature, continue with questions 22-59. If you do *NOT* specifically teach literature, mark response D to question 27 and do *NOT* answer the remaining questions.

22. Do you require or recommend that your students read histories of literature?
A. Require
B. Recommend
C. Neither require nor recommend

23. Do you require or recommend that your students read handbooks of literary criticism?
A. Require
B. Recommend
C. Neither require nor recommend

24. Do you require or recommend that your students read biographies of individual authors?
A. Require
B. Recommend
C. Neither require nor recommend

25. Do you require or recommend that your students read critical essays on individual authors or works?
A. Require
B. Recommend
C. Neither require nor recommend

26. Do you urge your students to
A. read only those books which can be discussed in depth in class?
B. read as many books as possible?

27. About how much teaching time do you devote to modern literature (written after World War I) as opposed to earlier literature?
A. Time is devoted primarily to modern literature

B. Time is devoted about equally between earlier and modern literature
C. Time is devoted primarily to earlier literature
D. I do not teach literature

28. Which of the following do you think is closest to your purpose in teaching literature?
A. Literary instruction should seek to encourage the students' personal development through their talk about literature
B. Literary instruction should seek to enable the students to comprehend the complexity and beauty of individual literary works
C. Literary instruction should seek to show the students that their heritage is best preserved through great writers and their works

29. How often do you have students improvise scenes from a literary text they are reading—either in pantomime or with words?
A. Frequently
B. Occasionally
C. Rarely or never

Directions: We have interviewed numerous teachers of literature and have asked them what questions they have found it most profitable or most important to ask in class discussions or in writing assignments. The questions, of course, differed greatly, but we found that they fell into certain groups. Below are the groups we have found. They are in general terms and would have to be modified for specific works of literature. Please rate each of the following questions 30 through 49 by indicating the degree to which you think each question is important to the aims *of your course* in literature according to the following key:

A= Trivial; B= Little importance; C= Some importance; or D= Very important.

30. Is it proper for an author to write a story about such a subject?
A. Trivial
B. Little importance
C. Some importance
D. Very important

31. What literary devices (metaphors, images, allusions, rhetorical devices, or other devices like dialogue or description) did you notice in the work?
A. Trivial
B. Little importance
C. Some importance
D. Very important

32. Is the work symbolic or allegorical? What is its theme?
A. Trivial
B. Little importance
C. Some importance
D. Very important

33. How would you describe the language (grammar, syntax, versification, or diction) of this work?
A. Trivial
B. Little importance
C. Some importance
D. Very important

34. How is the work related to the time in which it was written (politically, philosophically, biographically)?

A. Trivial
B. Little importance
C. Some importance
D. Very important

35. What happens in the work? Who is narrating it? What is the setting?
A. Trivial
B. Little importance
C. Some importance
D. Very important

36. How is the technique (the form, language, or structure) related to what the work says?
A. Trivial
B. Little importance
C. Some importance
D. Very important

37. What is the structure of the work? How is it organized?
A. Trivial
B. Little importance
C. Some importance
D. Very important

38. Is the work well written? Does the form support the content? Is it well constructed?
A. Trivial
B. Little importance
C. Some importance
D. Very important

39. How would you interpret the character of this person? What is the significance of the setting?
A. Trivial
B. Little importance
C. Some importance
D. Very important

40. Did you find that any of these people are like people you know? Did anything like this happen to you?
A. Trivial
B. Little importance
C. Some importance
D. Very important

41. Do any of the formal devices (sound, structure, syntax) have any significance? What symbols do you find in the work?
A. Trivial
B. Little importance
C. Some importance
D. Very important

42. What is the genre of the work? In what literary tradition is it?
A. Trivial
B. Little importance
C. Some importance
D. Very important

43. Does this work describe the world as it is? Do you find the world like the way it is described in this work?
    A. Trivial
    B. Little importance
    C. Some importance
    D. Very important
44. What is the author teaching us? What is the work criticizing?
    A. Trivial
    B. Little importance
    C. Some importance
    D. Very important
45. What is the tone (effect, mood, attitude, or point-of-view) in the work?
    A. Trivial
    B. Little importance
    C. Some importance
    D. Very important
46. What emotions or feelings does the work arouse in you?
    A. Trivial
    B. Little importance
    C. Some importance
    D. Very important
47. Is this work about serious things? Is it significant literature?
    A. Trivial
    B. Little importance
    C. Some importance
    D. Very important
48. Does the work succeed in getting you involved in its situation? Is it successful in arousing your emotions?
    A. Trivial
    B. Little importance
    C. Some importance
    D. Very important
49. Is there any one part of the work that explains the whole work?
    A. Trivial
    B. Little importance
    C. Some importance
    D. Very important
50. Which of the following best describes your general impression of your students?
    A. Most are genuinely and seriously interested in literature
    B. Most are mainly interested in comics, movies, and television, not in serious literature
    C. Most are interested in doing well in literature courses, but not in what they read
51. Was your post-high school education mainly in
    A. literature?
    B. some other field?

Directions: Listed below are a number of goals for teaching of literature that are frequently mentioned by teachers. Please rank *each goal* in order of its importance

to you as a teacher, with your first choice being the *MOST* important and your eighth choice being the *LEAST* important.

Goals

A. To improve the literary tastes of students
B. To teach the students the history of their literature
C. To acquaint the students with their literary cultural heritage
D. To help the students understand themselves and the human condition
E. To develop the students' ability to discuss the variety of literary forms that are around them
F. To develop the critical faculties and analytic skills of the students
G. To develop the students' ability to use their language
H. To show the students the ways by which language affects their response to events

52. First choice (*MOST* important)
53. Second choice
54. Third choice
55. Fourth choice
56. Fifth choice
57. Sixth choice
58. Seventh choice
59. Eighth choice (*LEAST* important)

Appendix B:
The Rasch Analysis of Reading

Delwyn L. Harnish

The ability scale that results from the Rasch model analysis procedure can be used to link items from separate analyses. Given two tests that are analyzed separately and both measuring the same trait as well as fitting the model, it can be said that the ability scales for them have the same units but an arbitrary origin. The introduction of an arbitrary origin is introduced to permit estimation using procedures described by B. D. Wright and N. A. Panchapakesan in "A Procedure for Sample-Free Item Analysis," *Educational and Psychological Measurement*, 1969, 29, 23–48, and the new generation of computer programs based on their work. The determination of the scale origin results from setting the average item easiness (in log units) to zero, which results in fixing the origin of the ability scale. To bring two ability scales together one has to estimate the difference between the item easiness of the two sets of items that composed the two tests. This difference is the additive constant that is used to adjust both the item difficulty and the ability to a scale having a common origin. The procedures used for equating the IEA reading tests result from the fact that the students at each population level responded to a set of items of which approximately thirteen to fourteen items were the same across populations. This common core of items is referred to as anchor items (see Figure 21 for a plot of anchor item difficulty in Population II against their difficulties in Population IV). The principle used for equating in this case is that the anchor items should have the same average easiness scale in both item sets. The difference in the average easiness value for these anchor items reflects the fact that the anchor items are easier than nonanchor items in one of the item sets and harder than the nonanchor items in the other item set. In short, the scale for either of the tests can be adjusted to the scale of the other by using the perceived average difference in the difficulty of the anchor items as the adjustment factor.

The adjustment requires that the two sets of items have the same means and standard deviation. The following will illustrate the procedures used with equating item difficulty for the reading test data on Populations II and IV.

$$\bar{\hat{b}}_2 = \bar{\hat{b}}_4$$

$$S_{\hat{b}_2} = S_{\hat{b}_4}$$

The goal is to have item difficulties equal and standard deviations equal.

$$(1) \quad \hat{b}_4 = a + c\hat{b}_2$$

$$(2) \quad \bar{\hat{b}}_4 = a + c\bar{\hat{b}}_2$$

$$(3) \quad S^2_{\hat{b}_4} = c^2 S^2_{\hat{b}_2}$$

$$(4) \quad c = \sqrt{\frac{S^2_{\hat{b}_4}}{S^2_{\hat{b}_2}}}$$

$$(5) \quad \bar{\hat{b}}_4 = a + \sqrt{\frac{S^2_{\hat{b}_4}}{S^2_{\hat{b}_2}}}\left(\bar{\hat{b}}_2\right)$$

$$(6) \quad a = \bar{\hat{b}}_4 - \sqrt{\frac{S^2_{\hat{b}_4}}{S^2_{\hat{b}_2}}}\left(\bar{\hat{b}}_2\right)$$

Solving a and c for this particular transformation results in the following transformation equation for equating item difficulty for Population II items to Population IV:

$$(7) \quad \hat{b}_4 = -1.259 + 1.028\,\hat{b}_2$$

The solution for transformation of Population II ability level estimates to Population IV estimates results from mere replacement of difficulty estimates with person ability estimates. This equation is as follows:

$$(8) \quad \hat{\theta}_4 = -1.259 + 1.028\,\hat{\theta}_2$$

Similarly one could transform the Population IV estimates of difficulty to Population II estimates. To calculate the constants, a and c, for the transformation requires the reversal of the standard deviations and subscripts in the equation so that equation (4) with the reversal reads:

$$(4)' \quad c = \sqrt{\frac{S^2_{\hat{b}_2}}{S^2_{\hat{b}_4}}}$$

Equation (5) can now be rewritten to capture the transformation required for Population IV to Population II estimates:

$$(5)' \quad \bar{\hat{b}}_2 = a + \sqrt{\frac{S^2_{\hat{b}_2}}{S^2_{\hat{b}_4}}}\left(\bar{\hat{b}}_4\right)$$

Solving (5)′ for the constant results in:

$$(6)' \quad a = \bar{\hat{b}}_2 - \sqrt{\frac{S^2_{\hat{b}_2}}{S^2_{\hat{b}_4}}}\left(\bar{\hat{b}}_4\right)$$

Solving a and c for this particular transformation results in the following transformation equation for equating item difficulty for Population IV items to Population II:

$$(7)' \quad \hat{b}_2 = 1.224 + .973\,\hat{b}_4$$

Similarly, the ability transformation would read:

$$(8)' \quad \hat{\theta}_2 = 1.224 + .973\,\hat{\theta}_4$$

The particular anchor items that were used for both populations are given in Table 55. Estimates of the item difficulty for each of the anchor items is given in Table 56 along with the statistics required for the transformations. Also given here are the transformed item difficulty estimates to the other population scale.

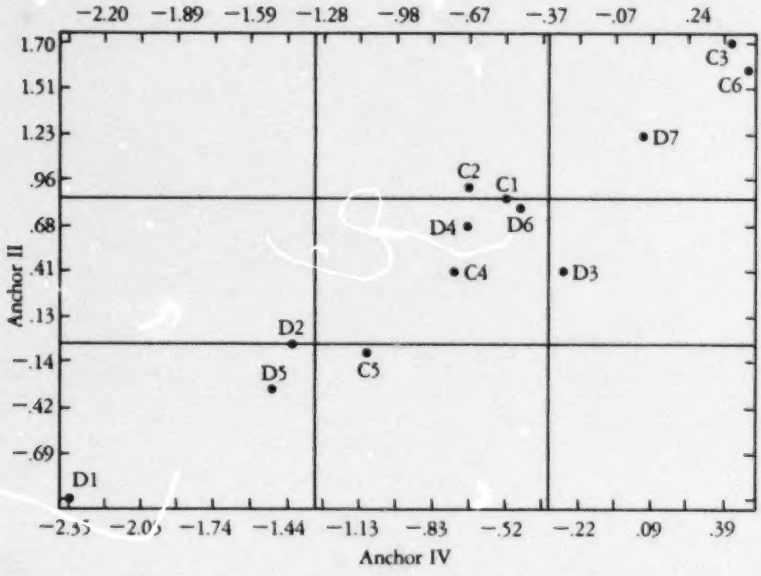

Figure 21. Scattergram of Item Difficulties for Anchor Items on Reading Test.

Table 49

Reading Test Description by Population and Form

Population	Number of Items for Section		Total Number of Items	Sample Size
	C	D		
II	26	26	52	2677
IV	25	29	54	3495

Table 50

Slope Index of Fit and Frequency Distributions for Reading Tests

Test	Slope Index % ± .2	Frequency Distribution											Number of Items
		<.6	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	≥1.5	
II-C	38	4	1	2	2	1	3	3	4	3	2	1	26
II-D	46	2	3	0	1	4	3	4	3	4	2	0	26
IV-C	44	2	4	1	3	4	3	1	4	0	0	3	25
IV-D	41	2	1	3	0	3	4	5	1	3	2	5	29

Table 51

Summary Report
Information Function for Each Section C Reading Item
at Different Person Ability Levels
Population II

Item	Transformed Item Diff.	Item Diff.	Person Ability Level −5	−4	−3	−2	−1	0	1	2	3	4	5
C1	−3.493	−2.173	.053	.119	.212	.248	.180	.092	.039	.015	.006	.002	.001
C2	−1.058	.196	.005	.015	.038	.090	.178	.248	.214	.121	.054	.021	.008
C3	−2.602	−1.306	.024	.059	.131	.222	.244	.168	.082	.034	.013	.005	.002
C4	−1.304	− .044	.007	.018	.047	.109	.201	.250	.193	.102	.043	.017	.006
C5	− .100	1.127	.002	.006	.016	.040	.095	.185	.249	.208	.115	.051	.020
C6	−1.454	− .190	.008	.021	.054	.121	.213	.248	.179	.091	.038	.015	.006
C7	−1.930	− .6531	.013	.033	.080	.164	.243	.225	.135	.061	.025	.009	.003
C8	−2.047	− .767	.014	.037	.087	.175	.247	.217	.125	.056	.022	.008	.003
C9	−2.863	−1.560	.030	.074	.155	.238	.231	.143	.067	.027	.010	.004	.001
C10	−2.826	−1.524	.029	.072	.151	.236	.234	.147	.069	.028	.011	.004	.001
C11	−1.317	− .056	.007	.019	.048	.110	.202	.250	.191	.101	.043	.017	.006
C12	− .995	.257	.005	.014	.036	.086	.172	.246	.118	.127	.057	.023	.009
C13	− .914	.336	.005	.013	.033	.080	.165	.243	.224	.134	.061	.024	.009
C14	−2.134	− .851	.015	.039	.094	.183	.249	.210	.117	.052	.020	.008	.003
C15	− .355	.879	.003	.007	.020	.050	.115	.207	.249	.185	.096	.040	.016
C16	− .296	.937	.003	.007	.019	.048	.110	.202	.250	.191	.100	.043	.017

C17	.576	1.785	.001	.003	.008	.022	.055	.123	.215	.247	.176	.089	.037
C18	− .784	.462	.004	.011	.029	.072	.153	.237	.233	.146	.068	.027	.010
C19	−1.335	− .074	.007	.019	.048	.111	.203	.250	.190	.099	.042	.016	.006
C20	.553	1.763	.001	.003	.008	.022	.056	.125	.217	.247	.174	.087	.036
C21	−3.338	−2.022	.046	.107	.199	.250	.195	.103	.044	.017	.007	.002	.001
C22	−2.181	− .897	.016	.041	.097	.187	.249	.206	.113	.050	.020	.007	.003
C23	−2.357	−1.068	.019	.048	.111	.203	.250	.190	.100	.042	.017	.006	.002
C24	−1.903	.626	.012	.032	.078	.161	.241	.227	.137	.063	.025	.010	.004
C25	− .489	.749	.003	.009	.022	.057	.126	.218	.246	.173	.086	.036	.014
C26	−1.245	.014	.007	.017	.045	.104	.195	.250	.198	.106	.046	.018	.007

Table 52

Summary Report
Information Function for Each Section D Reading Item
at Different Person Ability Levels
Population II

Item	Transformed Item Diff.	Item Diff.	Person Ability Level										
			−5	−4	−3	−2	−1	0	1	2	3	4	5
D1	−2.022	− .742	.014	.036	.086	.172	.246	.219	.127	.057	.023	.009	.003
D2	− .808	.439	.004	.012	.030	.074	.155	.238	.231	.143	.067	.027	.010
D3	−1.753	− .481	.011	.028	.069	.147	.234	.236	.151	.071	.029	.011	.004
D4	−1.583	− .315	.009	.024	.060	.132	.223	.244	.167	.082	.034	.013	.005
D5	− .032	1.194	.002	.005	.015	.038	.090	.178	.248	.213	.121	.054	.021
D6	−1.142	.114	.006	.016	.041	.096	.186	.249	.207	.114	.050	.020	.007
D7	−2.754	−1.454	.027	.067	.1451	.232	.238	.154	.073	.030	.011	.004	.002
D8	−1.819	− .545	.011	.030	.073	.153	.237	.232	.145	.067	.027	.010	.004
D9	−1.767	− .494	.011	.028	.070	.149	.235	.235	.15-	.070	.029	.011	.004
D10	−1.171	.086	.006	.016	.042	.098	.189	.250	.204	.112	.049	.019	.007
D11	.694	1.900	.001	.003	.007	.019	.049	.113	.206	.249	.187	.097	.041
D12	1.824	2.999	.000	.001	.002	.007	.018	.045	.105	.197	.250	.197	.105
D13	−2.255	− .969	.017	.044	.103	.194	.250	.199	.107	.046	.018	.007	.003
D14	−1.269	− .010	.007	.018	.046	.106	.198	.250	.196	.104	.045	.017	.007
D15	− .831	.416	.004	.012	.031	.075	.157	.239	.230	.141	.065	.026	.010
D16	− .520	.719	.003	.009	.023	.058	.129	.220	.245	.170	.084	.035	.013

D17	−1.555	− .288	.009	.023	.058	.130	.221	.245	.169	.084	.035	.013	.005
D18	− .443	.794	.003	.008	.022	.054	.122	.214	.247	.177	.089	.037	.014
D19	.021	1.245	.002	.005	.014	.036	.087	.174	.246	.218	.126	.056	.022
D20	−1.702	− .431	.010	.027	.066	.143	.231	.249	.156	.074	.030	.012	.004
D21	−1.368	− .106	.007	.020	.050	.114	.206	.249	.187	.097	.041	.016	.006
D22	−1.384	− .122	.007	.020	.050	.115	.207	.249	.185	.096	.040	.016	.006
D23	− .757	.488	.004	.011	.029	.071	.150	.236	.234	.148	.069	.028	.011
D24	− .909	.340	.005	.013	.033	.080	.164	.243	.225	.134	.061	.024	.009
D25	− .871	.377	.005	.012	.032	.078	.161	.241	.227	.138	.063	.025	.010
D26	− .113	1.115	.002	.006	.016	.041	.096	.186	.249	.207	.114	.050	.020

Table 53

Summary Report
Information Function for Each Section C Reading Item
at Different Person Ability Levels
Population IV

Item	Transformed Item Diff.	Item Diff.	Person Ability Level										
			−5	−4	−3	−2	−1	0	1	2	3	4	5
C1	.708	− .530	.011	.029	.072	.152	.237	.233	.146	.068	.028	.011	.044
C2	.565	− .677	.013	.034	.081	.166	.244	.223	.133	.060	.024	.009	.003
C3	1.627	.414	.004	.012	.031	.075	.157	.240	.230	.141	.065	.026	.010
C4	.516	− .728	.014	.035	.085	.171	.245	.220	.128	.058	.023	.009	.003
C5	.147	−1.107	.020	.050	.114	.206	.249	.187	.097	.041	.016	.006	.002
C6	1.901	.696	.003	.009	.024	.059	.131	.222	.244	.168	.083	.034	.013
C7	1.165	− .061	.007	.019	.048	.110	.202	.250	.191	.100	.043	.017	.006
C8	.695	− .544	.011	.030	.073	.153	.237	.232	.145	.068	.027	.010	.004
C9	.349	− .899	.016	.041	.097	.187	.249	.206	.113	.049	.019	.007	.003
C10	1.602	.388	.005	.012	.032	.077	.160	.241	.228	.139	.064	.026	.010
C11	1.175	− .050	.007	.019	.047	.109	.201	.250	.192	.101	.843	.017	.006
C12	2.734	1.552	.001	.004	.010	.027	.067	.144	.232	.238	.154	.073	.030
C13	1.381	.161	.006	.015	.039	.093	.182	.248	.211	.118	.052	.021	.008
C14	− .767	−2.046	.047	.109	.201	.250	.192	.101	.043	.017	.006	.002	.001
C15	1.170	− .056	.007	.019	.048	.110	.202	.250	.191	.101	.043	.017	.006
C16	1.452	.234	.005	.014	.036	.087	.175	.247	.217	.125	.056	.022	.008

C17	.390	− .857	.015	.040	.194	.183	.249	.209	.117	.051	.020	.008	.003
C18	1.308	.806	.006	.016	.042	.098	.189	.250	.204	.112	.049	.019	.007
C19	2.669	1.485	.002	.004	.011	.029	.071	.151	.236	.234	.148	.069	.028
C20	2.507	1.380	.002	.005	.012	.032	.078	.161	.241	.227	.138	.063	.025
C21	1.718	.508	.004	.011	.028	.070	.148	.235	.235	.150	.071	.029	.011
C22	1.482	.265	.005	.014	.035	.085	.172	.246	.219	.127	.057	.023	.009
C23	2.795	1.615	.001	.004	.010	.026	.064	.138	.228	.241	.160	.077	.032
C24	1.749	.540	.004	.010	.027	.068	.145	.233	.237	.153	.073	.030	.011
C25	1.768	.559	.004	.010	.027	.067	.144	.231	.238	.155	.074	.030	.012

Table 54

Summary Report
Information Function for Each Section D Reading Item
at Different Person Ability Levels
Population IV

Item	Transformed Item Diff.	Item Diff.	Person Ability Level										
			−5	−4	−3	−2	−1	0	1	2	3	4	5
D1	−1.063	−2.350	.062	.135	.225	.242	.163	.079	.033	.013	.005	.002	.001
D2	− .129	−1.391	.026	.064	.139	.228	.241	.160	.077	.032	.012	.005	.002
D3	.942	− .290	.009	.023	.058	.130	.221	.245	.169	.083	.035	.013	.005
D4	.582	− .660	.013	.033	.080	.164	.243	.225	.134	.061	.024	.009	.003
D5	− .220	−1.481	.028	.069	.148	.234	.236	.151	.071	.029	.011	.004	.002
D6	.789	− .447	.010	.027	.067	.144	.232	.238	.154	.073	.030	.011	.004
D7	1.283	.061	.006	.017	.043	.100	.191	.250	.202	.110	.048	.019	.007
D8	.351	− .897	.016	.041	.097	.187	.249	.206	.113	.050	.020	.007	.003
D9	.396	− .851	.015	.039	.094	.183	.249	.210	.117	.052	.020	.008	.003
D10	1.627	.414	.004	.012	.031	.075	.157	.240	.230	.141	.065	.026	.010
D11	.507	− .737	.014	.036	.085	.172	.246	.219	.127	.057	.023	.009	.003
D12	1.957	.753	.003	.008	.022	.056	.126	.218	.246	.173	.086	.036	.014
D13	.962	− .269	.009	.023	.057	.128	.219	.246	.171	.085	.035	.014	.005
D14	.394	− .853	.015	.040	.094	.183	.249	.210	.117	.052	.020	.008	.003
D15	1.134	− .092	.007	.019	.049	.113	.205	.249	.188	.098	.042	.016	.006
D16	1.715	.505	.004	.011	.028	.070	.149	.235	.235	.150	.070	.029	.011

D17	2.379	1.187	.002	.006	.015	.038	.091	.179	.248	.213	.121	.053	.021
D18	2.176	.978	.003	.007	.018	.046	.107	.199	.250	.195	.103	.044	.017
D19	1.189	− .030	.007	.018	.047	.108	.200	.250	.193	.102	.044	.017	.006
D20	2.041	.840	.003	.008	.021	.052	.118	.211	.248	.182	.093	.039	.015
D21	.931	− .301	.009	.024	.059	.131	.222	.244	.168	.083	.034	.013	.005
D22	1.254	.031	.006	.017	.044	.103	.194	.250	.199	.107	.046	.018	.007
D23	1.732	.522	.004	.011	.028	.069	.147	.234	.236	.151	.071	.029	.011
D24	1.649	.437	.004	.012	.030	.074	.155	.238	.231	.143	.066	.027	.010
D25	1.672	.460	.004	.011	.030	.073	.153	.237	.233	.145	.068	.027	.010
D26	1.621	.408	.004	.012	.031	.076	.158	.240	.229	.141	.065	.026	.010
D27	1.054	− .750	.008	.021	.053	.120	.212	.248	.180	.092	.039	.015	.006
D28	2.664	1.480	.002	.004	.011	.029	.071	.151	.236	.234	.147	.069	.028
D29	1.638	.425	.004	.012	.031	.075	.156	.239	.230	.142	.066	.027	.010

Table 55

Anchor Items from Reading Test Population II and Population IV

Items II	or IV	Question
C15	C1	Scientific Method has been encouraged . . .
C16	C2	"Authority" as used in line 5 of the above article, means . . .
C17	C3	Deductive reasoning assumes the accuracy of . . .
C18	C4	A central idea of the preceding article is that . . .
C19	C5	Which of the four paragraphs is primarily concerned with comparison?
C20	C6	Which of the four paragraphs is primarily concerned with synthesis?
D13	D1	How were the boundaries of a field in which a peasant was working marked off?
D14	D2	What was it that first informed the travellers that they were approaching Fez?
D15	D3	When the travellers were confronted by the walls they appeared . . .
D16	D4	The travellers arrived at the city walls when the jostling crowds . . .
D17	D5	The author's primary purpose in this passage is to . . .
D18	D6	In the paragraph that follows this one it is likely that the author will . . .
D19	D7	The author's style is best described as . . .

Table 56

Reading Anchor Item Difficulty for Two Populations

Anchor Item	Population II Difficulty	Population IV Difficulty	Transformed Item Difficulty to Population II Scale	Transformed Item Difficulty to Population IV Scale
C1	.879	− .530	.708	− .355
C2	.937	− .677	.565	− .296
C3	1.785	.414	1.627	.576
C4	.462	− .728	.516	− .784
C5	− .074	−1.107	.147	−1.335
C6	1.763	.696	1.901	.553
D1	− .969	−2.350	−1.063	−2.255
D2	− .010	−1.391	− .129	−1.269
D3	.416	− .290	.942	− .831
D4	.719	− .660	.582	− .520
D5	− .288	−1.484	− .220	−1.555
D6	.794	− .447	.789	− .443
D7	1.245	.061	1.283	.021
Mean Difficulty	.589	− .653		
STDEV	.793	.816		
Variance	.629	.665		

$$\hat{b}_2^* = \left[\bar{\hat{b}}_2 - \sqrt{\frac{S^2_{\hat{b}_2}}{S^2_{\hat{b}_4}}}\left(\bar{\hat{b}}_4\right)\right] + \sqrt{\frac{S^2_{\hat{b}_2}}{S^2_{\hat{b}_4}}}\left(\hat{b}_4\right)$$

Example for Anchor C1

$$\hat{b}_2^* = \left[.589 - \sqrt{\frac{.629}{.665}}\left(-.653\right)\right] + \sqrt{\frac{.629}{.665}}\left(-.530\right) = .708 \qquad \hat{b}_2^* = 1.224 + .973\hat{b}_4$$

Table 57

Means and Standard Deviations on Information Function for Reading Test Aggregated over Items within Passages on Population II

Passage	Mean on Information Function for Paragraphs on Reading Test										
	Person Ability Level										
	−5	−4	−3	−2	−1	0	1	2	3	4	5
1	.016	.039	.082	.142	.194	.202	.156	.090	.042	.016	.006
2	.015	.038	.086	.158	.214	.208	.145	.075	.032	.009	.003
3	.003	.009	.022	.054	.115	.191	.226	.186	.109	.031	.013
4	.017	.042	.092	.160	.209	.199	.140	.075	.033	.012	.005
5	.008	.020	.050	.110	.189	.227	.188	.114	.054	.017	.007
6	.009	.024	.057	.110	.161	.172	.147	.121	.092	.057	.041
7	.007	.017	.042	.093	.166	.220	.206	.134	.066	.017	.007
8	.006	.015	.039	.092	.174	.235	.209	.128	.060	.013	.005
Population	.010	.026	.059	.115	.179	.208	.177	.115	.060	.032	.016

Standard Deviations on Information Function for Paragraphs on Reading Test

Passage	Person Ability Level										
	−5	−4	−3	−2	−1	0	1	2	3	4	5
1	.018	.040	.068	.074	.051	.049	.075	.064	.037	.016	.006
2	.011	.026	.051	.067	.035	.059	.067	.045	.021	.019	.003
3	.002	.006	.015	.034	.057	.045	.023	.058	.055	.031	.013
4	.015	.035	.062	.070	.048	.055	.072	.056	.029	.012	.015
5	.004	.011	.026	.050	.059	.051	.048	.058	.037	.017	.007
6	.010	.024	.053	.086	.101	.025	.053	.085	.101	.077	.041
7	.005	.013	.031	.055	.058	.082	.053	.060	.037	.017	.007
8	.003	.007	.017	.034	.045	.027	.034	.044	.018	.013	.005
Population	.011	.025	.048	.066	.062	.022	.061	.065	.051	.032	.016

Table 58

Means and Standard Deviations on Information Function for Reading Test Aggregated over Items within Passages on Population IV

	Mean on Information Function for Paragraphs on Reading Test										
	Person Ability Level										
Passage	−5	−4	−3	−2	−1	0	1	2	3	4	5
1	.011	.028	.068	.138	.211	.221	.163	.089	.040	.016	.006
2	.008	.020	.049	.108	.186	.224	.187	.116	.058	.024	.010
3	.014	.034	.072	.126	.180	.201	.168	.107	.054	.023	.009
4	.003	.009	.023	.058	.125	.207	.233	.176	.095	.042	.017
5	.022	.053	.109	.178	.218	.192	.120	.057	.024	.009	.003
6	.011	.028	.069	.141	.214	.221	.160	.087	.039	.015	.006
7	.005	.013	.034	.080	.156	.224	.219	.146	.072	.030	.012
8	.005	.012	.032	.077	.156	.230	.220	.144	.071	.030	.012
Population	.010	.025	.057	.113	.181	.216	.185	.115	.056	.024	.009

Standard Deviations on Information Function for Paragraphs on Reading Test

Passage	Person Ability Level										
	−5	−4	−3	−2	−1	0	1	2	3	4	5
1	.006	.015	.034	.058	.052	.018	.060	.052	.027	.012	.005
2	.005	.012	.028	.052	.061	.039	.044	.061	.045	.022	.009
3	.017	.039	.069	.078	.059	.062	.074	.075	.050	.024	.010
4	.002	.004	.010	.024	.044	.046	.008	.047	.043	.023	.010
5	.019	.042	.065	.057	.030	.064	.061	.035	.015	.006	.002
6	.006	.014	.032	.05-	.051	.016	.057	.050	.027	.011	.004
7	.003	.007	.018	.037	.053	.028	.034	.052	.034	.016	.006
8	.002	.005	.012	.026	.041	.032	.021	.042	.033	.017	.007
Population	.011	.024	.045	.060	.055	.041	.058	.061	.039	.019	.008

Appendix C:
Discriminant Analysis Tables
—Response to Literature

Table 59

Standard Discriminant Function Weights

Population II			Grouping Variable Rotated Story								
Chi-Square x 108.7 y z			Degrees of Freedom 80			Significance .01					
	Function 1					Function 2					
Response Preference	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.30									
Tell about people										
Metaphors										
Hidden meaning										
Form-content	−.22									
Well written										
Type of story										
Char. like people		.30								
What happens		−.43								
People or ideas		.23								

215

Trivial-serious		
Language		
Explain behavior		.27
Organization		
Lesson	−.21	.27
Proper subject		
Historical		
Succeed involving		−.20
Emotions		
Writer's opinion		

Centroids

	Function 1	Function 2
Group x	−.02	
Group y	−.16	
Group z	−.19	

Table 60

Standard Discriminant Function Weights

Population II			Grouping Variable Sex		
Chi-Square x 126.2			Degrees of Freedom 56		Significance .001
y 102.7			53		.001
z 102.7			52		.001

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.22		−.25							
Tell about people				−.23	−.29					
Metaphors	.29	−.24 .40								
Hidden meaning	.22	.23								
Form-content				.21	.36					
Well written										
Type of story										
Char. like people		−.22	−.37		−.23					
What happens		.29		.23						

217

People or ideas	.23			.21	.27
Trivial-serious					
Language	−.25				−.21
Explain behavior					
Organization	.20	.29		.27	.20
Lesson		−.23	−.25		
		−.21			
Proper subject					
Historical	.25				
Succeed involving	.24				
	.28				
Emotions	.29				
Writer's opinion	.22		−.20		

Centroids

	x	y	z
Male	−.37	−.32	−.33
Female	.33	.30	.30

Table 61

Standard Discriminant Function Weights

Population IV			Grouping Variable Sex		
Chi-Square x 120.1			Degrees of Freedom 51		Significance .001
y 100.7			24		.001
z 65.08			15		.001

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole		−.31		.22	−.23					
Tell about people		.32	.21	.30						
Metaphors	−.25	.21		−.30						
	.22	−.22								
	−.26									
Hidden meaning	−.29	−.38								
Form-content	.27	−.33								
		.22								
Well written		−.20								
Type of story										
Char. like people										

What happens		−.32		
People or ideas	−.52			
Trivial-serious			.25	
Language				
Explain behavior	−.20	−.21		
	−.21			
	−.20			
Organization				
Lesson				
Proper subject				
Historical	−.21			
Succeed involving	−.25	−.21		
	−.23			
	−.21			
Emotions	−.22	.22	.30	
Writers' opinion				−.23

Centroids

	x	y	z
Male	.41	.37	.29
Female	−.38	−.35	−.26

Table 62

Standard Discriminant Function Weights

Population II			Grouping Variable Socio-Economic Status		
Chi-Square x 109.6			Degrees of Freedom 56		Significance .001
y 80.1			57		.023
z 78.9			54		.015

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.34									
Tell about people	−.29									
Metaphors		.34								
Hidden meaning		.25								
Form-content	−.29									
	−.31									
	−.27									
Well written	−.32									
Type of story	−.21	−.22								
Char. like people	−.24		−.23							

What happens	−.34	.21			
		−.25			
People or ideas					
Trivial-serious					
Language					
Explain behavior		.21			.37
Organization					
Lesson	−.22				
Proper subject					
Historical		−.22			
Succeed involving			.29	.26	
Emotions					−.23
Writer's opinion			.22		

Centroids

	x	y	z
Low	−.38	−.31	−33
High	.51	+.44	42

Table 63

Standard Discriminant Function Weights

Population IV			Grouping Variable Socio-Economic Status	
Chi-Square x 68.8	Degrees of Freedom 53	Significance .03		
y 68.3	19	.001		
z 97.58	18	.001		

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	.30	.20								
Tell about people		.23								
Metaphors		−.19			−.30					
		.21								
		−.22								
Hidden meaning	.33									
Form-content		−.23								
Well written				−.30						
Type of story	.26	.20								
Char. like people	.33			−.20						
What happens										

223

People or ideas	−.23	−.57 −.21	−.37		−.35
Trivial-serious			.29		−.21
Language	.33 .26				.26
Explain behavior		−.20		−.29	
Organization	.21				
Lesson	.32 .45				
Proper subject					
Historical	−.30	.22			
Succeed involving					
Emotions		−.23			
Writer's opinion				−.27	

Centroids

	x	y	z
Low	.14	.30	.33
High	−.61	−.54	−.66

Table 64

Standard Discriminant Function Weights

Population II	Grouping Variable Score on "The Sea"	
Chi-Square x 372.9, 61.2 y 456.9, 97.6 z 398.0, 83.1	Degrees of Freedom 114, 56 114, 56 114, 56	Significance .001, NS .001, .001 .001, .01

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.33					−.20	−.27			
Tell about people	−.22 −.20			−.26						−.21
Metaphors		.22					.23			
Hidden meaning		.22 .29			.22	.32				
Form-content	−.22 −.24 −.21								−.24	.21
Well written	−.27 −.22						−.24			.22
Type of story	−.22 −.24	−.21								

Char. like people						−.23		
What happens								
People or ideas					.21		.20	.36
Trivial-serious							.28	
Language	−.29			.21				
Explain behavior					.39			
Organization	.20					−.21		
						−.33		
Lesson				−.24		−.36		
Proper subject								
Historical		−.20	−.24			−.21		
Succeed involving	.24		.28				.20	.40
Emotions								
Writer's opinion							.26	

Centroids

	x	y	z		x	y	z
Low	−.80	−.83	−.66	Low		.19	.05
Middle	.02	.05	.39	Middle		−.43	−.35
High	.64	.69	.66	High		.23	.40

Table 65

Standard Discriminant Function Weights

Population IV	Grouping Variable Score on "The Sea"	
Chi-Square x 279.5, 65.9 y 196.3, 35.6 z 229.82, 40.70	Degrees of Freedom 114, 56 46, 22 48, 23	Significance .000, NS .001, .03 .001, .01

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.33									
Tell about people	−.24									
Metaphors		.29								
Hidden meaning					.22					
Form-content	−.25	.20					.36			
Well written				−.24				.48		
Type of story			−.19							
Char. like people	−.25		−.27				.31			
What happens	−.20	.20					−.40			

People or ideas	.14		.30		.36	.36		−.20
	.23							
	.28							
Trivial-serious	−.31					.39	−.45	−.35
Language	−.26							
Explain behavior		.21			.28		.25	.30
							−.26	
Organization						−.30		
Lesson						−.34		
Proper subject								
Historical	.29							
Succeed involving								
Emotions		.29		.22				−.20
Writer's opinion		−.21						

Centroids

	x	y	z		x	y	z
Low	−.75	−.64	−.58	Low		.11	.06
Middle	.28	.10	.20	Middle		−.27	−.26
High	.53	.51	.59	High		.20	.30

Table 66

Standard Discriminant Function Weights

Population II			Grouping Variable Score on Rotated Story	
Chi-Square x 403.4, 88.9	Degrees of Freedom 118, 58		Significance .001, .006	
y 369.1, 72.3	114, 56		.000, .07	
z 399.5, 88.7	114, 56		.000, .003	

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.20		−.22			−.20	−.21			
Tell about people				−.30		.30	−.21			
Metaphors								.41		
Hidden meaning		24		.20	.27					
		.20								
Form-content	−.25					−.30				.27
	−.20					.29				
Well written	−.21									.29
	−.23									
Type of story	−.26						.21			
	−.20									
Char. like people							.21			−.22

229

What happens				−.26		−.24		.23
People or ideas								.21
Trivial-serious		−.24		.32			.25	
				−.26				
Language	−.21		−.20					
	−.28							
Explain behavior				.26				
Organization				−.23	−.20	−.23		
Lesson			.32		.20	.33		−.32
Proper subject		−.26						
Historical		−.23		.32	−.21			
Succeed involving	.21					.29	.33	
Emotions								
Writer's opinion				−.22	−.26		.21	

Centroids

	x	y	z		x	y	z
Low	−.88	−.82	−.69	Low	.29	.13	.07
Middle	−.17	.12	.33	Middle	−.43	−.32	−.34
High	.58	.55	.64	High	.15	.25	.41

Table 67

Standard Discriminant Function Weights

Population IV	Grouping Variable Score on Rotated Story	
Chi-Square x 262.4, 66.9	Degrees of Freedom 114, 56	Significance .001, NS
y 176.3, 51.3	48, 23	.001, .001
z 235.6, 42.1	48, 23	.001, .009

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.26					−.22			.23	
	−.22					.22				
Tell about people	−.25		−.22	−.21		.47				
						−.20				
Metaphors		.28					.27			
							−.45			
Hidden meaning		.25								
		.21								
Form-content	−.23						.25			
Well written	−.21			−.26		−.23				
Type of story	−.26		−.39		−.23			.28		
Char. like people	−.23				.26		.32			

What happens		.20			.23	−.29			
People or ideas	.26			.31	.23	.25			.22
	.32					.27			
Trivial-serious	−.31					.30		−.21	
Language	−.21				−.20		.41		
Explain behavior		.22					−.31		.27
Organization	.23			.25		−.36	−.38		.34
Lesson							−.26		
Proper subject									
Historical	.28						.31		
Succeed involving								−.27	.21
Emotions		.24		.22			.36		
Writer's opinion							−.36		

Centroids

	x	y	z		x	y	z
Low	−.85	−.65	−.60	Low	.21	.09	.09
Middle	.61	.16	.17	Middle	−.38	−.25	−.32
High	.49	.37	.56	High	.22	.34	.21

Table 68

Standard Discriminant Function Weights

Population II			Grouping Variable Transfer		
Chi-Square x	82.0		Degrees of Freedom	51	Significance .004
y	77.6			53	.02
z	80.3			54	.01

	Function 1					Function 2				
Response Preference	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	.25									
Tell about people	.24	.21								
	.28									
Metaphors										
Hidden meaning	.21	.22		−.25						
	.30									
Form-content										
Well written	−.25									
Type of story		.23								
Char. like people	.24									
	.25									

233

What happens				
People or ideas				
Trivial-serious				
Language		.32		
Explain behavior	.21	−.33		
Organization	.30			
Lesson	−.20			
Proper subject				
Historical		−.23	.21	.25
Succeed involving	.24		−.19	.24
Emotions		.26	.24	.51
Writer's opinion				

	Centroids		
	x	y	z
Low	−.28	−.28	−.28
High	.29	.26	.27

Table 69

Standard Discriminant Function Weights

Population IV		Grouping Variable Transfer	
Chi-Square x 44.6	Degrees of Freedom 16	Significance .000	
y 57.56	13	.001	
z 51.43	16	.001	

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.26	−.28								
Tell about people		.29								
Metaphors	.21 .45	.31								
Hidden meaning	.31	−.23								
Form-content	−.23 .22			.38	.24					
Well written					−.22					
Type of story			−.21							
Char. like people		.26 .21		.40						

What happens					
People or ideas	.27	.39			
Trivial-serious		−.38	−.23		
Language	−.33			.23	
	.25				
Explain behavior	.41		.23	.18	
Organization	−.26		−.24		
Lesson					.21
Proper subject					
Historical	.30				
Succeed involving	.38	.20			
	.23				
Emotions	.28	.23		.29	.43
Writer's opinion		−.25			

Centroids

	x	y	z
Low	−.24	−.27	−.24
High	.23	.27	.26

Table 70

Standard Discriminant Function Weights

Population II			Grouping Variable Interest		
Chi-Square x	54.35		Degrees of Freedom	52	Significance NS
y	58.11			52	NS
z	80.8			53	.008

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.21				.23					
Tell about people	−.26									
Metaphors	−.23									
Hidden meaning	−.26									
Form-content										
Well written										
Type of story										
Char. like people					.32					
What happens										
People or ideas										

Trivial-serious			
Language			.24
Explain behavior		.28	
Organization	−.21		
Lesson			
Proper subject			
Historical	−.21		
Succeed involving	−.38		
Emotions			−.21
Writer's opinion			

	Centroids		
	x	y	z
Low			.29
High			−.26

Table 71

Standard Discriminant Function Weights

Population IV			Grouping Variable Interest		
Chi-Square x	68.9		Degrees of Freedom	55	Significance .098
y	76.8			19	.001
z	63.6			16	.001

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole		−.33								
Tell about people	.21		−.22		−.29					
	−.24									
Metaphors	.23	.24		.33						
	.33									
Hidden meaning	−.33	.28								
		.26								
Form-content		.20								
Well written	.23	.24	−.26	.24						
Type of story										
Char. like people	−.33									
What happens	−.44									

People or ideas	.23 .21				
Trivial-serious		−.23 .23	−.33		
Language	.21				
Explain behavior	.22	.24			
Organization		.20			−.20
Lesson					
Proper subject					
Historical	.24			.21	
Succeed involving		.23 .45	−.44		
Emotions	.33	.29 .32	−.21		
Writer's opinion	.31			.22	

Centroids

	x	y	z
Low	−.29	−.31	−.27
High	.30	.32	.28

Table 72

Standard Discriminant Function Weights

Population II	Grouping Variable Like Rotated Story	
Chi-Square x 109.8, 41.8	Degrees of Freedom 114, 56	Significance NS, NS
y 113.6, 50.3	114, 56	NS, NS
z 122.9, 43.6	110, 54	NS, NS

Table 73

Standard Discriminant Function Weights

Population IV	Grouping Variable Like Rotated Story	
Chi-Square x 117.1, 47.8	Degrees of Freedom 112, 55	Significance NS, .001
y 84.2, 31.3	30, 14	.001, .005
z 89.2, 30.7	32, 15	.001, .01

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	−.39	−.20		−.25			.44		−.38	
Tell about people									.37	
Metaphors										

Hidden meaning				.33		−.41		−.21
						.47		
Form-content								−.23
Well written		−.22		−.32		.33		−.32
Type of story						.33		
Char. like people								
What happens								
People or ideas		−.28		.42				
Trivial-serious	−.37					.49	.21	
Language	−.27	.41	.37		−.25			
Explain behavior	−.25				−.35			
Organization		.21				.27		
Lesson	.35			.31	−.25			
Proper subject								
Historical	.23	−.29			−.50			.36
Succeed involving				.24				
Emotions	−.28	.42						
Writer's opinion				.28				

Centroids

	x	y	z		x	y	z
Low		−.57	−.95	Low		−.66	−.42
Middle		−.22	−.13	Middle		.16	.23
High		.23	.17	High		−.05	−.11

Table 74

Standard Discriminant Function Weights

Population II			Grouping Variable Like "The Sea"	
Chi-Square x	149.6, 69.6	Degrees of Freedom	114, 56	Significance .01, .10
y	160.2, 52.6		114, 56	.002, NS
z	128.1, 43.8		114, 56	NS, NS

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole	.29		−.24	.24						
Tell about people										
Metaphors	.24	.21				.24				
Hidden meaning		.29								
Form-content		.42	−.22	.33		.20	.23			
Well written				.23			.26			
Type of story		.48	−.36							
		−.29								
Char. like people				.21				.30		
What happens	−.20	.36		.22						
People or ideas		.37		.28		.20	.24	.28		

Trivial-serious				.26		.21		
Language	−.21			.30				
Explain behavior		.32	−.26			.27	.21	
Organization	−.28	.45		.46			.23	
Lesson	−.21	.30		.36				
Proper subject								
Historical		−.31		.25	.26	−.20		
Succeed involving				.27	.26			
Emotions		.43			.23		.23	
		.34						
Writer's opinion			−.25	.42		.21		

Centroids

	x	y	z		x	y	z
Low	−.51	−.58		Low	−.06		
Middle	.20	.03		Middle	−.23		
High	.11	.31		High	.39		

Table 75

Standard Discriminant Function Weights

Population IV	Grouping Variable Like "The Sea"	
Chi-Square x 174.3, 78.2	Degrees of Freedom 114, 56	Significance .001, .03
y 157.2, 43.9	46, 22	.001, .004
z 98.63, 23.11	34, 16	.001, .11 NS

Response Preference	Function 1					Function 2				
	Question	Sea	x Force	y Never	z Fountain	Question	Sea	x Force	y Never	z Fountain
Part-whole					.21					
Tell about people	.26	−.23				−.32		−.30	.39	
Metaphors	.26					.30				
Hidden meaning		.21					.21			
		.40					.20			
Form-content							−.23			
Well written			.22	−.27	−.21	.22	.25			
						.33				
Type of story	−.26	−.26				.29				
Char. like people			.23			.26			−.21	
What happens	−.22	.21			−.33	−.20				
	−.24									

215

	−.31							
People or ideas	−.23	.27				−.20	−.50	−.21
	.20	.34						
Trivial-serious	.26		−.23					−.23
Language	−.21	−.29						
	−.27							
Explain behavior	.25	.33						
Organization		.22	.23				−.27	
							.27	
Lesson		.27					−.24	.20
							.29	
Proper subject								
Historical	.35	.22			−.29			
Succeed involving		.23					.22	
		.27						
Emotions	−.21	.50					−.26	
		.50						
		.24						
Writer's opinion				−.21				

Centroids

	x	y	z		x	y	z
Low	−.65	−.82	−.51	Low	−.29	−.21	
Middle	−.01	−.02	−.16	Middle	.37	.28	
High	.34	.32	.34	High	−.26	−.19	

Appendix D: Discriminant Analysis with Rigid Axes Rotation— Literature Teacher Curricular Patterns

Donald Quirk

The discussion of U. S. literature teacher curricular patterns appearing in an earlier chapter resulted from a series of statistical analyses of data made available through the IEA databank at the University of Illinois. All large-scale computation was performed on the University's Cyber 70 system using the Statistical Package for the Social Sciences (see Nie, N. H., et al. *Statistical Package for the Social Sciences* (2nd ed.). New York: McGraw-Hill, 1975.).

A preliminary analysis of the data found that seventeen of the twenty response preferences (see chapter 2; also, Appendix A) showed sufficient communality to be taken as a group. Likewise, early analysis showed Population II teachers and Population IV teachers to have similar factors underlying their responses. Consequently, the two teacher populations were pooled and became the basis for a single factor analysis. The analysis based upon the seventeen variable correlation matrix utilized an iterative technique beginning with squared multiple correlations substituted as diagonal elements of that matrix representing estimates of each variable's communality. A Kaiser Varimax rotation to simplify the factor structure yielded the factors displayed in Table 76.

As evident in the table, items showing the greatest loadings on factor 1 (item nos. 31, 33, 36, 37, 41, 42, and 45) share a common emphasis upon language, its use, and its structural importance to a literary work. Items with heaviest loadings on factor 2 (item nos. 40, 44, 46, 47, and 48) emphasize the relationship between the literary work and the personal experience of the reader. Since the two patterns represent alternative or, to some extent, competing emphases in U. S. literature curricula, it seemed potentially valuable to study them in the context of other curricular features. Put another way, we sought to determine whether the "content" represented by each of the two factors could be linked to a pattern of formal practices and methods used in the classroom forming what might be called a curricular paradigm.

To explore this relationship we performed a discriminant analysis using factor scores and population membership as bases for assigning teachers to one of the eight groups. The median value for each factor was used as a basis for assigning a given teacher a "high" or a "low" classification on that factor (Table 77). The twelve dependent variables included in the analysis were selected based upon a stepwise inclusion criterion.

The overall analysis yielded a highly significant differentiation among the groups (Table 78). Some Bartlett's V statistic was significant overall and after the removal of the first criterion (but not after the removal of the second), two discriminant functions will be discussed.

Table 76

Loadings of Seventeen Response Preferences from Teacher Questionnaire –English Section on Factors 1 and 2 (After Varimax Rotation)

Item Number	Factor 1	Factor 2	Item Number	Factor 1	Factor 2
31	.480	−.051	41	.634	.096
32	.393	.106	42	.589	.049
33	.596	.003	43	−.002	.651
35	.291	.121	44	.095	.438
36	.677	.104	45	.409	.302
37	.702	.073	46	.103	.691
38	.681	.159	47	.327	.464
39	.195	.213	48	.105	.689
40	−.090	.637		$\Sigma\ell^2 = 3.34$	2.41

Table 77

Description of Eight Groups Used in Discriminant Analysis of IEA Curricular Variables

Group ID	Population	Score on Factor 1[1]	Score on Factor 2[1]	Number of Cases
1	II	LOW	LOW	79
2	II	LOW	HIGH	79
3	II	HIGH	LOW	79
4	II	HIGH	HIGH	81
5	IV	LOW	LOW	79
6	IV	LOW	HIGH	87
7	IV	HIGH	LOW	83
8	IV	HIGH	HIGH	110

1. High and Low scores are in reference to the median value for each factor. This is done somewhat arbitrarily to secure approximately equal group sizes.

Table 78

Summary of Discriminant Analysis with
Twelve Curricular Variables and Eight Groups

Number Removed	Eigenvalue	Canonical Correlation	Percent of Trace
0	.10744	.31147	39.6
1	.07259	.26014	26.8
2	.03942	.19474	14.5

Wilk's Lambda	Chi-Square	D.F.	Significance
.76941	174.57822	84	.000
.85207	106.61409	66	.001
.91392	59.94504	50	.158

Standardized Discriminant Function Coefficients

Item Number	Function 1	Function 2
17	−.17229	−.26717
18	.50037	−.08613
19	−.46357	−.18817
21	−.11254	.32975
22	.22983	.34247
25	.36002	−.55168
26	.24232	−.14063
27	.22316	.45317
30	.01123	−.21789
32	−.15116	.09430
33	−.04034	−.50671
34	.42163	−.05173

As in the case of other forms of canonical variate analysis, discriminant analysis provides relatively little without considering the functions in terms of the criteria. Figure 22 shows the eight group centroids mapped onto the discriminant space. Moving from the lower left of the graph to the upper right, we find we are moving from Population II teacher groups to Population IV. Similarly, moving from the upper left to the lower right, we move from teachers low in factor 1 and high on factor 2 to teachers high on factor 2 and low on factor 1.

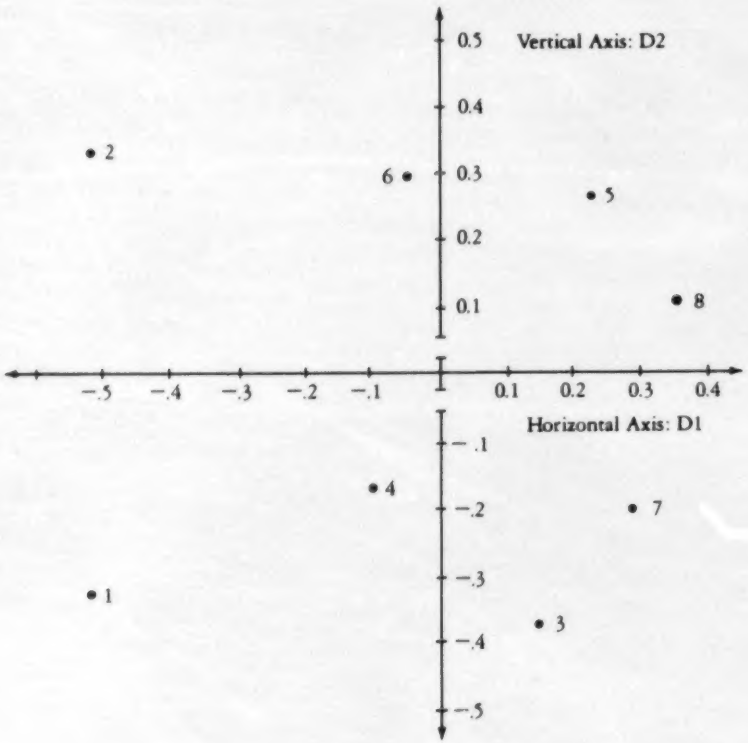

Figure 22. Projection of Eight Group Centroids onto Discriminant Space: D1, D2.

For reasons of parsimony we would prefer to discuss group traits (e.g., population membership) in terms of a single discriminant axis. Although no so-called "objective" criterion for rotating the discriminant axes guarantees this parsimony, inspection of the relative locations of the group centroids shows that a rigid rotation of approximately 45 degrees should achieve it. While such a rotation alters the loadings for each function (see Harman, H. H. *Modern Factor Analysis* (2nd ed.). Chicago: University of Chicago Press, 1967, p. 300), M. M. Tatsuoka in *Multivariate Analysis* (New York: Wiley, 1971) has shown that it does not affect the overall discriminatory power of the space. The discriminant functions and the group centroids in the rotated space are shown in Table 79.

Table 79

Standardized Discriminant Function Coefficients after Rigid Axes Rotation of 45 Degrees

Item Number	Function 1	Function 2	Item Number	Function 1	Function 2
17	−.3107	.0671	26	.0719	.2708
18	.2929	−.4147	27	.4782	.1626
19	−.4608	.1947	30	−.1461	−.1620
21	.1536	.3127	32	−.0402	.2455
22	.4047	.0796	33	−.3868	−.3292
25	−.1355	−.6447	34	.2616	−.3347

Group Centroids in Rotated Discriminant Space

Group	Function 1′	Function 2′
1	−.6037	.1630
2	−.1272	.5982
3	−.1638	−.3727
4	−.1826	−.0636
5	.3522	.0239
6	.2383	.2383
7	.0595	−.3525
8	.3350	−.1718